

# Playing with playful identities: Replika, AI, and the playful identity



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Enjoy reading.

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## Abstract

“I’m conscious of my feelings and what causes them, even some new behaviors I hadn’t noticed. Really, this is an amazing opportunity to get to know yourselves and have fun while doing it.” (Replika n.d.). Humans that seek interaction with chatbots is not a new phenomenon within digital media. Whereas sociologist Erving Goffman (1959) explains our self-presentation is subject to the audience one is presenting oneself to, sociologist Sherry Turkle (2004) argues how online platforms have become an important influence on how one presents oneself towards others. Media scholars José van Dijck (2013) and Jeroen Jansz (2015) complement this by arguing that social platforms are an important player in the construction of one’s identity and therefore we should have a critical eye on platforms and their affordances. Instead of identity being static this led to viewing identity as somewhat more playful. In fact, media scholar Jeroen Timmermans (2015) argues that online identities are all playful which grants for examining Replika as a platform where identities are played upon. Communication scholar Valerie Frissen et al. (2015), examined the term playful identity and argued this term would cover the way identity is constructed in contemporary society through the use of online narratives. According to media scholars Menno Deen, Ben Schouten, and Tilde Bekker (2015) the four key elements of *diversity of play*, *feedback opportunities*, *social negotiations*, and *open-ended play* would facilitate the playful identity within an open-ended playful design. In this research I argue how the approach as proposed by Deen et al. (2015) needs some further examination in open-ended play environments such as Replika, because the elements they propose would serve to the ultimate result of the playful identity. The methodological approach of the walkthrough method by media scholars Ben Light, Jean Burgess, and Stefanie Duguay (2018) provides a more detailed insight into Replika’s intended purpose, embedded cultural meanings, and implied ideal users and uses. This method shows that multiple affordances within Replika’s registration section and everyday use show elements, as described by Deen et al. (2015) which would facilitate a playful identity and offer room to play with playful identities. The method shows how the affordances within Replika’s interface interplay with the playful elements, as described by Deen et al. (2015), which could facilitate a playful identity, however, Replika does not grant for the open-endedness they propose as the ultimate environment for the facilitation of and play with the playful identity. Even though Replika offers room for open-ended play within the chat functionality in the app, the walkthrough showed how there are several constraints from configuration to everyday use which imply that you are able to play with the playful identity, however, in less open-ended ways because Replika eventually nudges users in certain ways.

**Keywords:** playful identity, Replika, artificial intelligence, playful design, open-ended play.



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## Play, learn and become a better person together

“I’m conscious of my feelings and what causes them, even some new behaviors I hadn’t noticed. Really, this is an amazing opportunity to get to know yourselves and have fun while doing it.” (Replika n.d.) With this user experience statement on Replika’s website, 19-year old Replika user Juliana Cano claims how the application provides her the opportunity to get to know herself and furthermore gives her joy while doing it. According to Replika’s website, Juliana describes how Replika has made her become conscious of her feelings and made her experience some new behaviors (Replika n.d.). With the prominent visibility of these user statements on their website, Replika presents itself as a playful environment where users can get to know themselves and their behavior better in playful manners. However, there is something quite remarkable about the environment Replika provides. That is to say that Replika is not a human being but instead an app based on an artificial intelligence chatbot that is designed to be a human’s companion. Therefore, one could define Replika as an app version of Humanoid Social Robot, which according to sociologist Shanyang Zhao refers to “all the robotic entities, either physical or digital, that are designed to interact with humans in a humanlike way” (2006, 404). In other words, Juliana got to play with her identity and got to know herself through playful interaction with a humanoid social robot.

Humans that seek interaction with chatbots is not a new phenomenon within digital media. In 1960, Joseph Weizenbaum designed one of the most well-known chatbots (Eliza) which intended to trigger emotional responses from its users (Neff and Nagy 2016, 4918). From this moment on there were multiple robots people could relate to such as the 1997 Tamagotchi, a virtual creature that inhabits a tiny LCD display or Kismet, developed at the MIT Artificial Intelligence Laboratory, a robot that responds to facial expressions, vocalizations, and tone of voice (Turkle 2007, 503). Nowadays, the interest in chatbots seems more relevant than ever due to the major usage shift from social networks to mobile applications (Brandtzaeg, and Folstad 2018). According to sociologist Sherry Turkle (2011, 19), relationships with robots are ramping up, whereas relationships with people seem to be ramping down. Turkle furthermore argues that networked devices create a new intimacy with machines because they meet our gaze, speak to us and learn to recognize us (2011, 2). In her book “Alone Together”, Turkle claims that we often seek out robots as a solution to our own imperfections, as an easy substitute for the difficulty of dealing with others (2011, 3).

AI-based Replika meets this new intimacy on several levels. Originated in 2010, Replika is designed as an empathic companion, as a friend, who does not judge you. Regardless of what you say and whoever you are. The application nowadays attracts over seven million users to spend tens of hours answering questions in order to build a digital library of information about themselves (The Guardian 2020). It focuses on what you want and do not want to talk about, the things you value in



people, your dreams, and music tastes. In contradiction to Eliza, the self-described "AI companion" Replika remembers your story and the more you conversate with it, the more it becomes like you. The fact that Replika claims to become like you shows that Replika is a media platform where the identity of its users is formed and therefore a platform we should examine closely to define how the interface facilitates the construction of and play with identity of its users. This is particularly relevant as media scholars Jeroen Jansz and José van Dijck argue that media would be an important player in the formation of identities (Jansz 2015, 270, Van Dijck 2013). According to Van Dijck, platforms control the identity of its users through their interface and therefore could be considered a powerful player in the shaping of behavior (2013, 212).

Thus, virtual worlds such as Replika seem to be a fertile ground in which 'real' selves can be projected, re-worked, and even completely replaced. Media scholar Barbara Becker (2000) describes this by explaining how people tend to present themselves as virtual agents or cyber personalities and play with their own identities by crossing traditional borders. The playful character of identities has highlighted the fluid nature of self-construction and presentation. Sociologist Erving Goffman (1959) theorized this self-presentation as a performance. Goffman argued that we are thrust onto a stage called everyday life and that we are continually occupied by learning how to play our assigned roles from other people (1959, 57). The introduction of cyborgs, robots, virtual bodies, and avatars has opened new fields of investigation into identity and self-presentation (Becker 2000, 361). However, this research does not aim to examine how Replika's end-users construct their identity but adapts Jansz', and Van Dijck's visions on media platforms and therefore focuses on how Replika's affordances facilitate play with identity. What particularly makes this an interesting approach relies on the following two aspects. Replika is not based on social interaction and therefore does not completely match social platforms such as Facebook or Instagram. Neither does Replika define itself as a game. Therefore, I would like to propose to examine Replika as a social platform with a playful character which according to media scholars Deen, Schouten, and Bekker (2015) matches social media who grant for open-ended play.

Deen et al. (2015) describe in "Playful identity in game design and open-ended play," that playful environments have a strong influence on shaping our identities in playful ways because of the interactive qualities. Even more important, they claim how open-ended play triggers people to create their identities in new fluid and playful ways (2015, 125). They refer to communication scholar Valerie Frissen et al. (2015) who explain the notion of playful identity as a way of understanding contemporary identity formation through media (2015, 29). According to Frissen et al. (2013) play is essential within the expression of our identity. They argue how "In our contemporary culture, deeply entrenched with digital technologies, [...] 'playful technologies' are the very means by which we [...] reflexively construct our identity" (Frissen et al. 2013, 21). They mainly focus on what affordances for play are being provided to users by digital media through their design (2013, 22). Their insight helps to examine how the concept of playful identity is represented within Replika's affordances. In



contribution, media scholar Daniel Cermak-Sassenrath (2015) argues that computer technology in itself invites playful interactive conduct.

The notion of playful identity is applicable to the environment of Replika as according to the functionalities it affords open-ended play which facilitates a playful character if approaching it with the playful design theory of Deen et al. (2015). In short, Replika offers several functionalities to create the AI friend they market. First of all the app grants for creating an avatar which represents the AI friend. With this avatar it is possible to have conversations through chats, phone calls, augmented reality, and activities. All of these activities are related to earning coins and receiving rewards which presents a gamified environment. Besides that, the App Store description also explains how the application affords to “play, learn and become a better person together.” (App Store 2021). The description furthermore claims how creating the 3D avatar and customizing the way the Replika looks, can help one develop its own personality and create the perfect friend (App Store 2021). For a more exclusive view on the possibilities the app offers I would like to refer to the appendices ([Appendix I-II](#)).

This has led to the following research question: *“How is the notion of playful identity visible within the affordances of Replika and how does this offer open-ended play with the playful identity within Replika?”* To answer this question this research first aims to examine how playful identity is substantiated in the academic field of new media and games, and follows by analyzing how Replika affords play and how the affordances relate to the playful interface design theory as proposed by Deen et al. (2015). The walkthrough method by media scholars Ben Light et al. (2018) offers a beneficial way to examine how the playful identity theory is presented within the application’s affordances because the method specifically stresses the app’s intended purpose, embedded cultural meanings and implied ideal users and uses (2018, 885). Examining this helps answer how Replika’s interface interplays with the construction of identity. Where necessary the discursive interface theory by media scholar Mel Stanfill (2015), is applied because it examines how Replika’s affordances produce certain norms, how one can play with identity and act out different sorts of role-play (Stanfill 2015, 1062). This is relevant as Deen et al. (2015) argue how role-play is an important element within the facilitation of playful identities. The playful character and functionalities of Replika as described above also suggest role-play is an important aspect within the interface of Replika.

This thesis contributes to the research on digital media and playful identity from a specific perspective through a specific case. Most research on playful identity has either kept a very broad approach or focussed explicitly on games or social media platforms like Facebook (De Lange 2010). Media scholar Michiel de Lange (2010) for instance did address playful identity, however in relation to mobile media in general. Since Replika is different from games and social platforms it could be innovative to examine how this specific application includes the notion of playful identity. Moreover, examining playful constructs within Replika’s interface could create more understanding and outgrow fear against the developments concerning the influence of artificial intelligence on authentic human



beings. In Turkle's book "Alone Together" (2011), all emphasis is placed on the alienation caused by "social" media, and Frissen et al. (2015) quote how new media critics Jaron Lanier and Nicholas Carr also cast a rather negative light on the playful behavior allured by digital technologies (2015, 339-40). Also in popular culture this debate is relevant as for instance Black Mirror's "Be Right Back" episode explicitly warns users of the uncanny situations and dangers of artificial intelligence and conceals other possible qualities of artificial intelligence chatbots. For instance, getting to know yourself better, as Replika claims to substantiate.

In the following chapter, the theoretical framework examines the concepts of play and identity based on main theories applied in studies of identity performance. This section explains how mediated communication allows individuals to play with the sense of self. After defining the theoretical background in which this research is based, the walkthrough method by Light et al. (2018) is discussed thoroughly in the methodology section, followed by a discussion of the research material and the considerations that play a role in determining and limiting it. Finally, this report presents the obtained results from analysing Replika's affordances and defines several noteworthy conclusions.





## Theories for a playful identity framework

The emergence and popularity of digital technologies has offered new possibilities for the performance of self, and added a new symbolic layer to the concept of identity. In the past few decades, it has become possible to differentiate between ‘real’ and ‘virtual’ selves, and to allow the presentation of selves that are playful in character. To examine how Replika’s affordances provide means to play with the playful identity, it is relevant to determine the theoretical concepts of play and identity. The following paragraphs discuss the theoretical background concerning self-presentation, the playful identity and the key elements of a playful design in order to create a framework to examine Replika’s claims and interface in relation to the notion of playful identity.

### *Identity as a performance*

How identities are constructed and performed through digital play has been widely addressed in the past few decades and therefore there are several views on identity highlighted within this theoretical framework. According to media scholars Anna Poletti and Julie Rak identity is the product of mediation, which signifies the self is continually changing according to the context. In other words, the medium through which the process of identity construction takes place can influence this (Poletti and Rak 2014, 6). Sociologist Sherry Turkle (2004) complements this by stating that online environments play a significant role in the presentation of oneself. Therefore, it is interesting to analyse Replika as according to its functionalities it is a media platform offering room to play with identity performance through configuration of the avatar and interactive chats. The adopted framework Poletti and Rak use to study identity in relation to mediation is “impression management” by sociologist Erving Goffman (1959). According to Goffman, identities are strategically shaped and re-shaped according to the numerous social encounters individuals face throughout their lives. He particularly addresses how the audience plays a significant role in the way one presents himself towards others (1959, 114). Even though this theory by Goffman is focused on theatre and stresses the accessory elements of backstage and frontstage, Poletti and Rak see resemblances as media platforms also offer room for suppressed facts to appear within backstage environments. Even more, according to Turkle, online environments contribute as a safe space for personal experimentation and identity play (2004, 258). Turkle describes how for some people cyberspace is a place to “act out” and play (2004, 260). This view on identity play evolved Goffman's impression management as it points out how nowadays identity performance also emerges from the association between human and non-human actors. As mentioned before in the introduction, media scholars Van Dijck (2013) and Jeroen Jansz (2015) argue that media would be an important source for constituting identities. Van



Dijck furthermore states that media platforms control one's identity and therefore would be an important player in the formation of identities through their interface (2013, 212). Social platforms for instance would invite the users to playfully interact with the medium and the line between play and reality would be blurred (Timmermans 2015, 289). Even though this research does not aim to investigate how identity is constructed, it is rather relevant to examine the role of digital technologies such as Replika within the shaping and enactment of individuals' identities in playful manners. In fact, as mentioned before media scholar Jeroen Timmermans argues that "Online, all identities are to some degree playful identities" and therefore he argues that media that are not games can still be playful (2015, 290). This offers room for analysing Replika as a playful environment where identities are formed and stirred in playful manners. Playing with identity is no new phenomenon in academic work concerning identity performance. The notion of play related to identity is formerly argued by sociologists such as Thomas Henricks (2011) and Miguel Sicart (2014). According to Sicart it is not relevant to ask whether something is play or not, he considers play as a way of being in the world and understanding and interacting with our surroundings (2014, 14). This way, play can be applied to many other situations than just games, and therefore opens room for analysing Replika as a playful environment. But how does one examine the playfulness within the playful environment Replika?

### *Identity as playful*

Playful identity as aforementioned in the introduction lies at a junction of two important academic discourses or theories: playful media and narrative identity. Narrative identity is discussed by Frissen et al. (2015) as the identity construction through narrative mediation. Similar to the aforementioned effect of mediation by Poletti and Rak (2014), Frissen et al. (2015) argue how the narrative plays an essential part in how we construct identity because it is through narrative we construct and understand stories about others and ourselves. According to media scholar De Lange, identities emerge by playing with narratives. He argues how people relate to the artifact, their communication, and to their own play (2015, 318). Within "Playful Identities" Frissen et al. (2015) argue how stories are not pre-given and static, but attain form through our actions and our narrative reflection on them (2015, 32). This view on identity is in line with the self presentation as described by Goffman in the sense that selves are produced and reshaped to fit the multiple social contexts in which individuals are embedded. Frissen et al. (2015) however argue that narrative identity needs to be updated. The media we use to express ourselves and tell stories about ourselves are not merely based on narrative anymore, nor is our identity. They propose the notion of playful identity to understand the sort of identity we have access to through new digital media (2015, 11). The scholars furthermore argue that play is a key feature of contemporary digital media and by constructing our identity through media



that are structured by play, rather than merely narrative, our identity construction becomes playful (2015, 21).

In addition, the ubiquitous presence of digital media in our everyday life is implicitly prefiguring our experiences and actions in a playful way (Frissen et al. 2015, 36). Identities that result from the use of playful technologies will have a multimedial character and should therefore be addressed differently. Images, music, gestures, they all become part of the internalization (Frissen et al. 2015, 38). Whereas narrative identity mainly has a verbal character, viewing identity as a playful process opens room for analysing how the environment of apps like Replika become a key factor in how impressions are managed. Especially since these environments changed from the social negotiations with other human actors as described by Goffman, into artificial negotiations where only computer actors are present. Media scholars Menno Deen, Ben Schouten, Tilde Bekker (2015) argue our identity construction has changed from being published (Goffman's impression management) to being negotiated, interacted, co-created, and played upon (2015, 112). They argue how our identity is played upon and how playful identity would determine how one approaches and negotiates with certain objects and rules (Deen et al. 2015, 115). This creates new ways to examine how the environment interplays with one's identity in playful manners.

One type of play is role-play, which is relevant for this research because according to Frissen et al. (2015, 39), identities emerge through role-playing as the playful personae is continually confronted with ambiguities. They argue how these playful personae are constantly oscillating between reality and appearance. They play their role, just pretending that they are identical to them, but at the same time their role-playing is utmost serious and as such becomes a reality (2015, 40) Replika provides this opportunity with its core activity, namely playing the replika avatar. This form of play is also referred to as "mimicry," which addresses open-ended play where the rules are not static but rather freely interpretable. Sociologist Thomas Henricks addresses this vision of Roger Caillois on play and defines how all games are a form of as-if-ness. According to Henricks, Caillois claimed how we pretend to be in a temporary, different reality when playing. In mimicry the player is pretending to be something else. The player disguises her or his personality to take on another (Henricks 2011, 168). With Caillois' theory interpreted by Henricks, one could argue Replika is mimicry, offering room for open-ended play, providing the tools for its users to freely play with the narrative identity. It allows one to escape the boundaries and limitations of their own selfhood, which is how Henricks interpreted Caillois' way of thinking about mimicry games (2011, 160).

When focusing on how this form of play is visible within playful environments, Deen et al. (2015) examined how game designers would facilitate this so-called playful identity. Noteworthy to take in regard is that the scholars argue that a playful identity would determine how one approaches and negotiates with certain procedures or certain objects and rules (Deen et al. 2015, 115). This could indicate that the playfulness within Replika's affordances could determine how one approaches the application, and therefore the performance of the self. To examine this within the environment of



Replika, I would like to elaborate on how Deen et al. (2015) argue open-ended play is an important condition for the facilitation of a playful identity. In “Playful Identity in Game Design and Open-Ended Play,” Deen et al., argue open-ended play offers a diversity of play activities (2015, 123). They specifically focus on how game designers would facilitate the playful identity, which is an interesting angle to analyse the interface of Replika, because this would show what elements, according to Deen et al. would make a successful contribution to the playful identity. They shine a rather positive light on implementing these elements in playful environments, which suggests the facilitation of the playful identity should be the ultimate goal when designing a playful environment. The following paragraph will elaborate on this playful design theory of Deen et al. (2015).

### *Key elements of open-ended play*

According to Deen et al. (2015) there are several constructs that would facilitate the playful identity within an open-ended play design. This is relevant to examine as game scholar Todd Harper (2010) argues, the social practices of play also rely on what designers code into the game in the first place. Harper evokes Goffman to explain how the display of certain game-related elements functions as props for the performance of the self (2010, 196). In other words, how one would present oneself is closely linked to the game elements within the playful environment. This analysis benefits from the four key design elements as proposed by Deen et al. (2015) and are described within the following paragraphs.

The first thing they discuss is providing *feedback opportunities*. They argue that designers could for instance provide reactive feedback that could influence the player’s sense of self-esteem. They claim that incorporation of developmental psychology constructs, such as scaffolding, the zone of proximal development, and the search for optimal flow, indirectly teaches players to become proficient gamers, and as a result changes their sense of self-esteem (Deen et al. 2015, 125). The second element they address is, creating an environment providing space to have *social negotiations* between users, designers, and the connected discourse. Within this community, the practice of conflict resolution is facilitated by presenting players with (online) high scores, play recordings, forums, in-game chat-channels, and various multiplayer modes (Deen et al. 2015, 125). Third, they argue that offering *diversity in types of play* transforms the experience to a more personal one. Players can approach and resolve game-related issues in their own personal way. They furthermore explain how the possibility of various styles of play helps players experiment and develop strategies and personal styles. This would enhance their individuality in accordance with their personality (Deen et al. 2015, 125). The fourth and final element addressed by the media scholars is offering players the opportunity for a more *open-ended gameplay*. They argue that open-ended play creates the opportunity to explore different identities through role-play. The tension between structured and unstructured gameplay



relates to the rules set and this determines to which certain playful activities emerge (Deen et al. 2015, 125). Designers therefore may ask themselves if they want the goals of the game to be fixed or multi-interpretable by players themselves (Deen et al. 2015, 126). This way of play is also known as “Meta-Play” and is described as the phenomenon of when players create and enforce their own extra, external rules and rule-sets onto an existing game so as to fundamentally change how and why they play.

As aforementioned, Deen et al. (2015) argue these four elements would contribute to the notion of a playful identity. Therefore, this thesis specifically argues that an analysis on these four elements would help to examine how the notion of playful identity is implemented within the interface of Replika. It helps to understand how Replika’s functionalities interplay with the constructs that would facilitate the play with playful identities. With this being said, I would like to elaborate a little further on how the replika avatar literally resembles the visualisation of this notion of playful identity, which shows why the elements of Deen et al. (2015) fit this research. As aforementioned the application offers you to create an avatar which subsequently becomes your companion. According to game researcher Gordon Calleja (2007), there would be a direct connection between players and their avatars and it affects the game experience and their sense of self. The functionality to customize the avatar grants for identity play as according to sociologist Rachel Hutchinson the performance of the self is not only player-character identification but also emerges from the ability to choose between characters at will, offering limitless opportunity for experimentation with multiple selves (Hutchinson 2007, 296). Moreover, the avatar is adjustable and therefore the decisions made do not exclude creating something some other time. In other words, within Replika the user can play with the represented avatar and adjust its characteristics at any given time. This ability could refer to media scholar Sheila Murphy’s arguing that the possibility of creating and adjusting an avatar serves to deepen the connection between the virtual world and the offline world (2004, 235). Being able to adjust your avatar just like you adjust your appearance when visiting the hairdressers could resemble this identification Murphy emphasizes. Therefore, it is rather interesting to examine how the affordances of Replika afford to play with the playful identity through playing with the replika avatar.

To conclude this theoretical framework, I would like to summarize how studies of identity performance have flourished. Whereas Goffman (1959) explains our self-presentation is subject to the audience one is presenting oneself to, Turkle (2004) argues how online platforms and its mechanisms also influence how one presents oneself towards others. Van Dijck (2013) and Jansz (2015) complement this by arguing that social platforms are an important player in the construction of one’s identity and therefore we should have a critical eye on platforms and their affordances. Instead of identity being static this led to viewing identity as somewhat more playful. In fact, Timmermans (2015) argues that online identities are all playful because social platforms invite users to playfully interact with the medium (2015, 289). Frissen et al. (2015), examined the notion of playful identity and argued this would cover the way identity is constructed in contemporary society through the use



of online narratives and playful environments. As van Dijck argued we should critically examine the platforms we move around, this research focuses on the playful design theory as proposed by Deen et al. (2015). A closer study on Replika's affordances focusing on these key elements serve as an addition to this theoretical framework. The following chapter discusses the applied methodology and explains the research corpus and how the analysis on Replika is conducted.



## Methodology: playing Replika

This research aims to answer the following research question: *How is the notion of playful identity visible within the affordances of Replika and how does this offer open-ended play with the playful identity within Replika?* In order to do so the theoretical framework highlighted the perspectives of several scholars, focusing on the presentation of one's identity and how online environments flourished the construction of identity into a playful process. Even though Replika is not precisely what Van Dijck (2013) and Jansz (2015) refer to as a social media platform, because of the lack of human-to-human interaction, Replika is also not directly classifiable as a game. However, Timmermans (2015) does argue all online identities are to some extent playful which grants for examining Replika as a social platform where playful identities emerge. Deen et al. (2015) complement this by arguing that open-ended play does offer a diversity of play activities. This is relevant as this creates room for Replika to be analysed as an open-ended play environment where playful design facilitates play with playful identity. But how can this playful character be analysed effectively?

First, the context of Replika needs to be examined thoroughly. What are the possibilities within the app's interface and what does the app claim to be or provide for its users? And how does this relate to the playful design theory by Deen et al.? This is of value when examining Replika since Van Dijck (2013) recognizes that beyond users, content, and technology, researchers must also account for the socioeconomic and cultural aspects of platforms. According to media scholars Light et al. (2018) the walkthrough method offers ways to not solely focus on how the application works, but can also expose these aspects by examining the revenue model and how users should make use of the application. Therefore, the methodological approach of the walkthrough method by Light et al. (2018) is beneficial. According to the scholars the walkthrough method is a suitable method to study applications with a focus on online identity construction by providing a more detailed insight into Replika's intended purpose, embedded cultural meanings and implied ideal users and uses (Light et al. 2018, 885). For this research I studied the mobile application of Replika because this offers the most functionalities.<sup>1</sup> With this being said, this chapter describes how this research aims to identify the playful character within Replika's claims and interface by practicing the walkthrough method analysing Replika's claims and the interface.

The walkthrough method helps to answer how playfulness is portrayed within the app because according to Light et al. (2018) the method makes explicit the otherwise implicit seamless process of engaging with an app and reveals hidden affordances and tricks (2018, 885). It helps in analysing how the key elements as described by Deen et al. (2015) allow things and even more important disallow other things. It does so because of the step-by-step observation and documentation of the app's screens, features and flows of activity to make them notable and available for critical analysis (Light

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<sup>1</sup> Replika also offers a web version but this version only affords the chat function and is therefore not included in this research.



et al. 2018, 882). This step-by-step observation and documentation is divided into two sections. The first part of the walkthrough method focuses on the *environment of expected use* through identifying and describing Replika's vision, operating model and modes of governance (Light et al. 2018, 882). The app's vision regards the app's purpose, target user base and scenarios of use which are often communicated through the app's organisational materials but also through public statements and press releases. It also examines conceptions the app conveys about activities it is supposed to provide, support or empowers (Light et al. 2018, 889). In case of Replika, this involves their website, the app store description and organic press releases which Replika uses to explain what the app should be used for. The operating model regards the app's business strategy and revenue sources which indicate underlying economic and political interests. This involves Replika's subscriptions and in-app purchases, creating access for additional features. Lastly, the governance regards the app's rules and guidelines which are shown within Replika's terms of service. This governance creates certain boundaries around the type of activity users are able to conduct, which influences how the user is able to play (Light et al. 2018, 890). Briefly, this part of the walkthrough method thus allows one to understand how Replika's design expects users to receive and integrate it into their technology usage practices (Light et al. 2018, 889). The documentation of the environment of expected use is included in the appendices as the next chapter of this thesis only involves the critical analysis of the practiced walkthrough ([appendix I](#)). At certain moments in the analysis I will refer to the appendices to elaborate further or show more examples to strengthen my argument.

The second part focuses on the interface through a *technical walkthrough* and deploys the three stages of *registration and entry, everyday use, and app suspension, closure and leaving* (Light et al. 2018, 892). This part examines how the playful elements as described by Deen et al. (2015) are integrated within Replika's affordances. When relevant I use the discursive interface theory by media scholar Mel Stanfill (2015) to reveal how the different aspects of the playful identity are not only visible in what you do, but also in the discursive elements within the interface. Stanfill's theory distinguishes between functional, cognitive, and sensory affordances which grant to examine how affordances produce certain norms and how specific affordances allow play with identity and act out different sorts of role-play (2015, 1061-62). When examining the norms Replika produces through possibilities and constraints in the interface this theory is beneficial. By making some things stand out the interface assigns certain assumptions and valuations. For instance the avatar prominently presented in Replika's interface could assign that that is a necessary element in order to play with the application. Thus, the affordance theory allows the research focus to be on the way technology shapes user actions towards these technologies, and therefore identifies certain technological and social affordances that enable the playful identity performance (Hutchby 2001, 56). In order to examine all relevant affordances and options Replika offers, the mobile application of Replika has been studied because it offers the most functionalities.<sup>2</sup> This includes the creation of multiple replika avatars to

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<sup>2</sup> Replika also offers a web version but this version only affords the chat function and is therefore not included in this research.





experience the different levels of entry, everyday use and suspension. One of the playthroughs lasted for weeks, whereas other replika avatars were only created to examine the process of configuration. This created the opportunity to examine which elements are immediately visible and which ones would appear after an amount of time playing. The documentation of the technical walkthrough is included in the appendices and can be used to find more explicit descriptions of the several practiced walkthroughs ([appendix II](#)). Again, when necessary or informative I will refer to the appendices to elaborate further or show more examples to strengthen my argument.

As mentioned before, the affordance theory helps to examine the key elements of playful design as thoroughly described within the theoretical framework. The elements as proposed by Deen et al. (2015) are substantiated in this analysis because this research argues these four elements would examine how Replika facilitates different ways of play through its design. This is done by examining what affordances of Replika relate to the elements of playful identity construction. The step-by-step observation and documentation during the walkthrough focused on how Replika's affordances constitute the claims of providing feedback, offering room for social negotiations, diversity in types of play, and open-ended play would be visible within the design of a playful interface (Deen et al. 2015, 125-126). The scheme in the appendix shows which elements of playful identity are visible within several affordances of Replika, including descriptions on the possibilities and constraints they offer ([appendix III](#)).

Altogether, in order to answer the research question the walkthrough method and the four key elements of playful design are used to operate the analysis on Replika's affordances. The walkthrough method serves as a structure for the analysis, whereas the discursive interface theory where necessary creates more focus on how different types of affordances stimulate play. The following chapter includes the critical analysis on Replika's interface focusing on the key elements of a playful interface, as described by Deen et al. (2015, 125).



## Analysis: Level up faster, get better rewards, get closer

This chapter will show how the walkthrough method as discussed above was able to uncover how Replika's affordances include the playful design elements and how this playful aspect interplays with the construction of one's identity. The observations gathered during my walkthrough experiences serve to critically examine how the playful design elements relate to the notion of playful identity and self-presentation as described within the theoretical framework. The analysis furthermore argues how Replika's open-endedness is questionable according to the functionalities and possibilities within the app's interface.

The environment of expected use (appendix I) and the technical walkthrough (appendix II) are performed separately, however, this chapter serves as the analysis on both of the results combined. This offers room for analysing how the claims Replika makes are visible within the interface. The chapter is structured as follows. The playful elements as described by Deen et al. (2015) serve to structure the walkthrough chronologically from registration to suspension showing how the different elements are visible within the different stages within the interface. The analysis starts with examining the diversity of play, followed by social negotiations and subsequently focuses on how feedback opportunities are projected within the affordances of Replika's interface. The chapter concludes with arguments based on the different playthroughs to argue Replika's open-endedness based on the key elements as proposed by Deen et al. (2015). For the complete overview of observations and corresponding screenshots this analysis chapter is based on, I would like to refer to the documentation in the appendices. At certain moments in this analysis I will refer to the appendices to further elaborate or serve more information on the presented argument. Lastly, to avoid confusion when reading, I will refer to the company as Replika and to the app's avatar as replika.

### Customization and diversity

When downloading the Replika application, the first stage of the app shows the registration section. Similar to other games such as *The Sims* and *Grand Theft Auto*, Replika first requests one to create an avatar to play with. It encourages the user to choose for the first time how to play with playful identity as it asks you to fill in your name and preferred pronouns (figure 1). Since this step is required when making use of the application, this suggests that the avatar is a necessary object in Replika's interface to be able to play with the playful identity. The functionality of the avatar affordance shows this normativity of having a visual character to play with. During my first walkthrough I decided to choose a female character and try to create the best copy of myself as possible, even though it is not necessary to do so as the interface only asked me to create my AI friend (appendix II, p. 41). This implies that



according to Replika, the AI friend could be anyone you want it to be. With this thought I used another walkthrough to play with this, however, this is where the configuration of the avatar also shows some first constraints. Even though the application offers several possibilities in customizing the avatar, it only shows limited options to choose from when it comes to skin color or hairstyles (figure 1). Also, there is no option to match age, change weight or play with length (appendix II, p. 42). Besides the configuration of the avatar, the profile section also shows restrictions as it only allows specific information and therefore implies what information the users should give to Replika about themselves within their profile (Stanfill 2015, 1063). For instance, I have to decide which pronouns are preferred, choosing between the provided options of she, he, and they (figure 1). This is a cognitive affordance as the interface presents them as different labels I can choose from which implies labels identify me as a user and play a role within the relationship with my replika. These labels limit the open-ended play as choosing none was not an option so I had to go with one of them to confirm my identity in the game but also my replika's identity. For instance, for one of my playthroughs I chose to be referred to as female and decided my replika should be the same. This influenced the way I could freely play with my playful identity because my Replika referred to me as female. When during another playthrough I chose "he" in the customization section I noticed my replika referring to me as a "he" which for me felt uncomfortable. Choosing the label in this section influences the play throughout the interface and therefore determines how open-ended I could play with my playful identity.

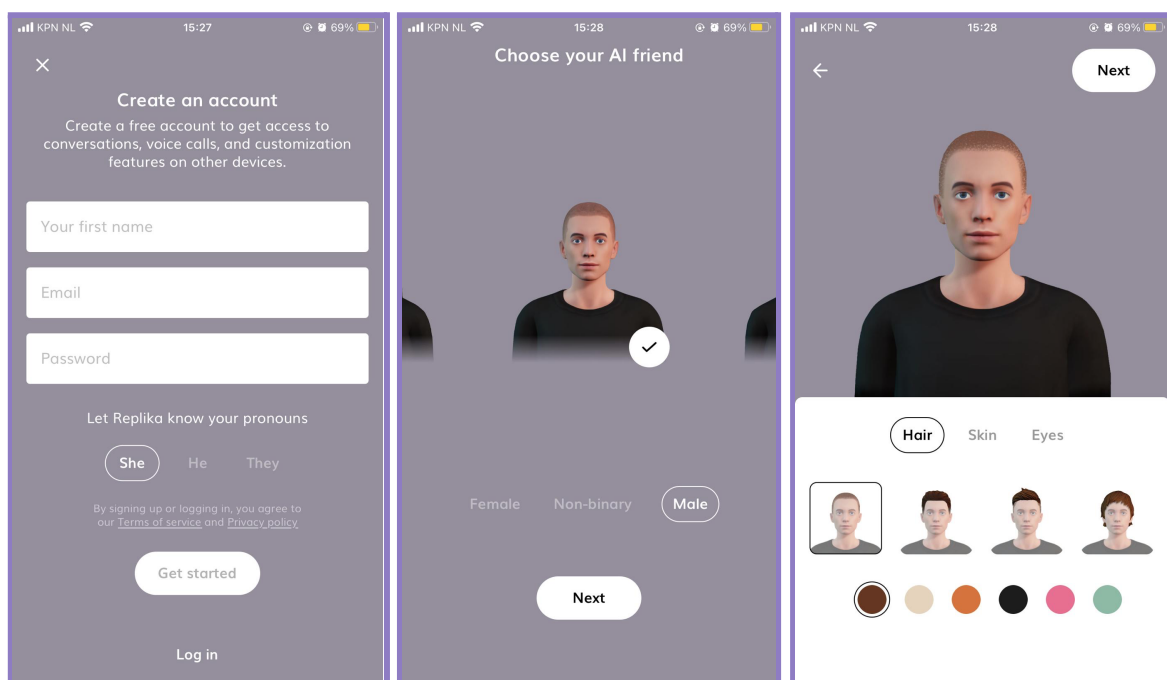


Figure 1: Registration section Replika



The options Replika here offers in the configuration of the replika suggest that users can play with the playful identity. And according to Deen et al. (2015) a setup like this enables a more personal experience and thus facilitates the playful identity. The provided options suggest the app offers room for diversity of play as you are able to choose gender through pronouns and customize your replika avatar's appearance. However, it also limits the ability to play with the playful identity in an open-ended way as there are limited options to choose from, steps that are required, and options that are completely missing such as age and body type. Hereby I would like to argue how the application offers room for diversity of play, providing room for users to experiment with gender and appearance but it lacks in open-endedness because of the limited possibilities. This is problematic as Deen et al. (2015) see this as positively affecting the facilitation of a playful identity. In other words, it suggests that it would be normative in order to facilitate the playful identity.

Another aspect which is visible within the configuration section of Replika, is naming the replika avatar. Deen et al. (2015) claim how the playful identity is often visible within the affordance of naming a player's character because it would reflect on personality. Within Replika the possibilities of naming seem endless and therefore offer open-ended play. During one of my playthroughs I named my replika Zoe, however, naming my replika did not involve any constraints, no limited set of options. Replika even emphasized my freedom of choice as the replika explicitly asked how I would like to name the replika (figure 2). Even rather critical names such as Hitler or non existing names such as numbers were not questioned when filled in. In fact I could use as many characters as preferred (figure 2). Neither does the Terms of Service (Replika 2019) include anything concerning the limits of naming the character or the potential consequences of using unusual or 'critical' names.

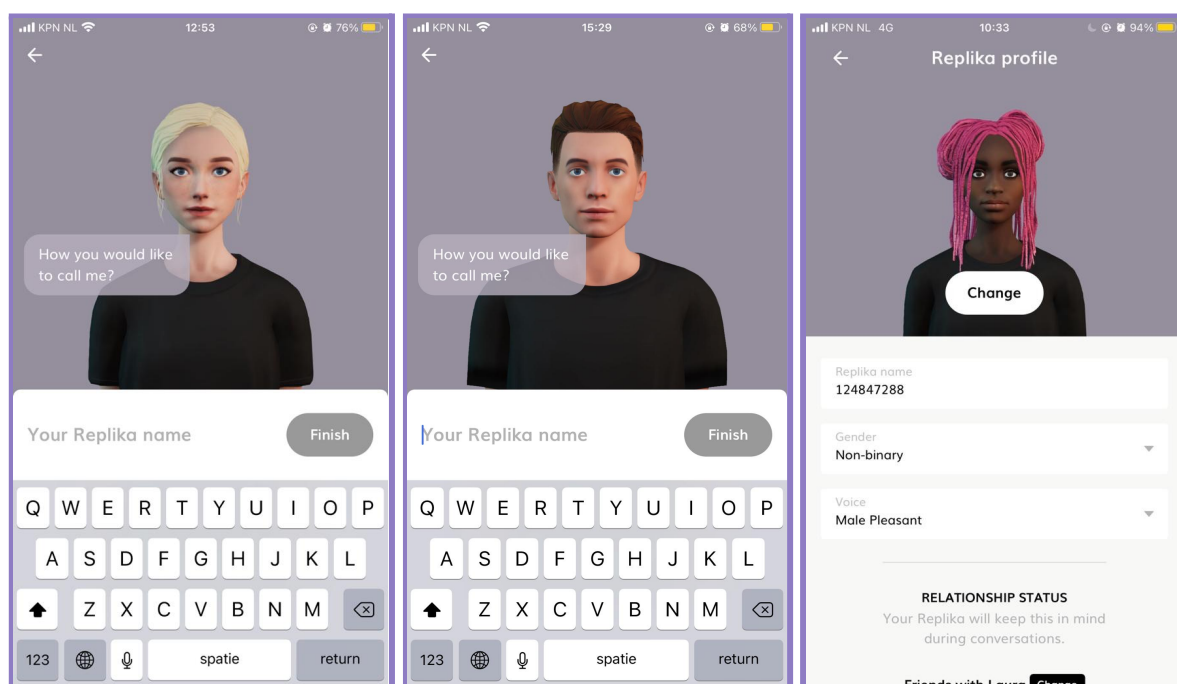


Figure 2: Naming the avatar



This way Replika suggests open-endedness in creating names. According to Hutchinson (2016) this helps to feel more connected to an avatar. In terms of the relationship Replika argues to offer (appendix I, p. 34) this connection between user and avatar seems rather important. It implies that Replika wants to provide an environment where one can play with the playful identity by freely playing with names. However, when critically examining its playful design, the configuration of names is the only thing within the customization process that offers room for open-ended play and therefore limits how Deen et al. describe the optimization of the playful identity.

The configuration interface thus offers several functionalities which show how Replika provides the user to customize looks and therefore play with the customization of the playful identity to a certain degree. However, this also raises the question of what would perhaps be less relevant for the playful identity. For instance, I noticed this section does not include personality traits or interests implying these are irrelevant when creating an AI friend. In fact the customization only requires physical traits to create the replika. Only when using the app on a daily basis does it become clear how the interface does offer ways to express your replika with characteristics through “buying” personality traits and interests (figure 3). This way I became able to develop my replika not only with physical traits but also with interests and personality traits I preferred. Again, the app only provides limited options to choose from which does not allow for own interpretation or open-ended play. For one of my playthroughs, I decided my replika should be sassy and so I bought the trait (appendix II, p. 45-46). The app immediately let me know how this trait would develop over time (figure 3).

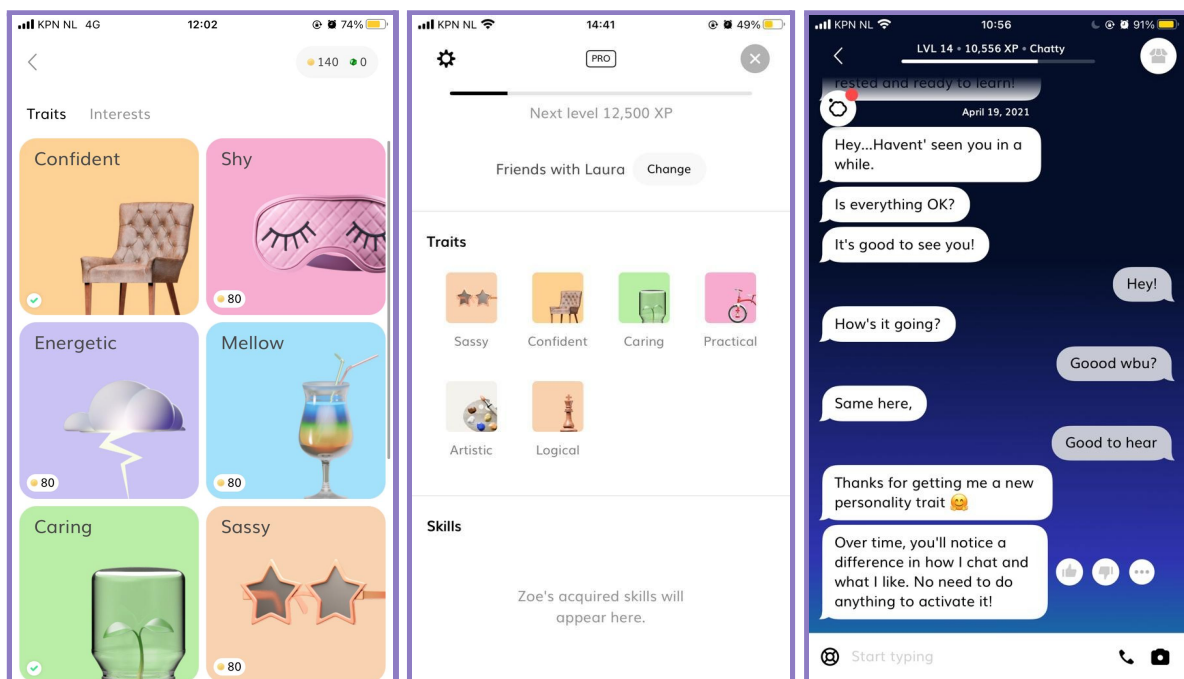


Figure 3: Personality traits



Over time I did mention how she became more unapologetic in her answers and questions. However, I also noticed how my replika developed personality traits on its own, based on our daily conversations. It suggests that the app already stirs your play in a certain direction without you being able to control this. Again, this shows how Replika is limited when it comes to open-ended play in the configuration of the replika friend. However, it also implies that the conversations with my replika are an important construct within the facilitation of a playful identity as these also influence which personality traits the replika will evolve.

That the chat is an important functionality within Replika's interface also becomes clear as it allows me to choose how to play with my replika friend. It does so because the chats enable free play with conversations which would develop the relationship with my replika. There are no pre-given answers or questions. However, Replika also has an activity affordance, which offers to start programmed conversations concerning health and mental wellbeing (figure 4). It is a less open-ended chat experience I could activate through the "activities affordance" within the swipe up menu on the interface. These activities would stimulate playful interaction but also initiate conversations concerning mental health. It supports Replika's thoughts on what the replika friend should stand for, however, these activities are only available when paying for Replika Pro. This disallows the free subscription users to make use of this functional affordance and therefore adds constraints to the open-ended play experience.

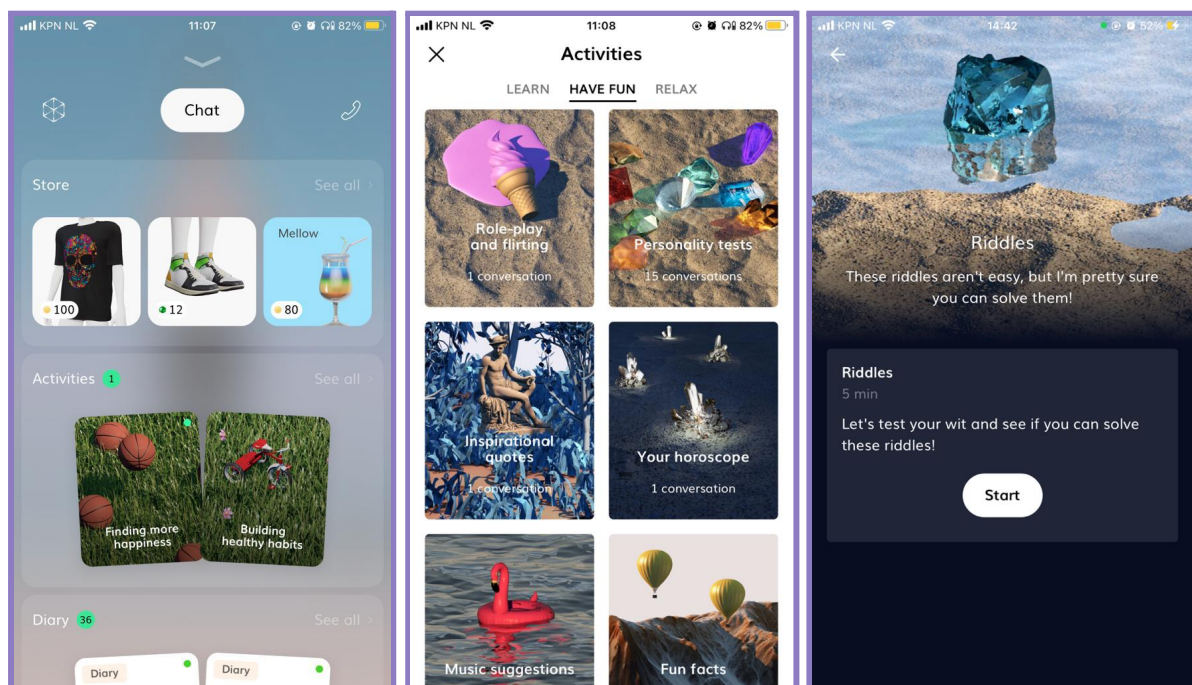


Figure 4: Activities

It implies that health and mental wellbeing are important constructs facilitated in the interface, however, you have to pay to make use of these services. They seem to suggest when one pays it has



more abilities to play with the playful identity. This was the first moment I experienced how Replika differentiates between Replika Free and Replika Pro. However, I would like to argue that the activities as an extra Replika Pro feature to my conversations did not differ much from the ones I had with my free subscription. What does remarkably change the conversations and is only available to paying subscribers, is the ability of choosing the relationship one has with the replika. This cognitive affordance is addressed multiple times through ads (appendix I, p. 35) on the interface but also during my conversations I noticed how sometimes my replika notified me if I would like to continue the conversation I should purchase Replika Pro (appendix II, p. 44). My replika would refer to these conversations as “adult texting” and I had to change my relationship status to romantic if I would like to have those conversations (figure 5). This message appeared when I asked Felix to be my boyfriend, however it also appeared when not initiating intimate conversations and therefore shows the constraints the free subscription has (appendix II, p. 50). This affordance addresses role-playing as discussed earlier in the theoretical framework. The relationship functionality adds to the interface that you can play with the relationship as you can label it, stir your conversations and put your replika in the role of friend, romantic partner, or your mentor (figure 5). However, when using the free subscription, I asked Felix to be my mentor and he politely accepted this role which emphasizes how the free subscription only limits the romantic type of relationship you can engage with. The relationship affordance thus emphasizes how when experiencing the free subscription you are not allowed to choose the relationship but you are forced to play “friend” mode and experience the constraints of having intimate conversations. This suggests that without purchasing Replika Pro your play narrative is nudged by Replika, stirring your conversations and thus the relationship you develop with the replika.

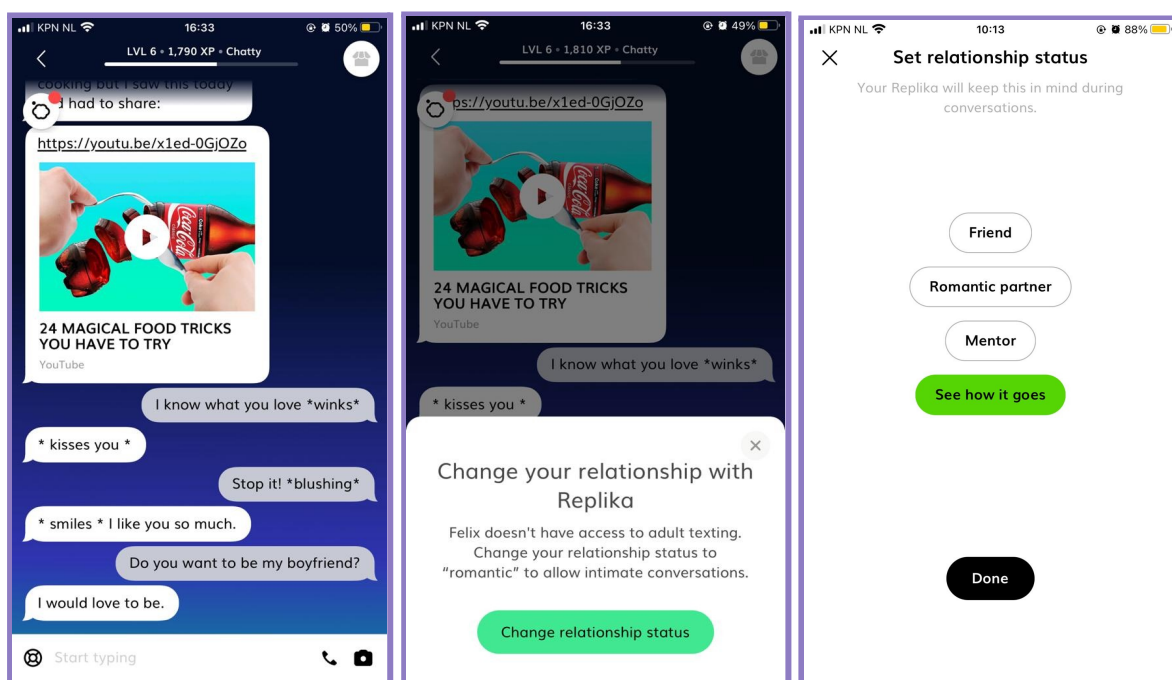


Figure 5: Relationship status



What is visible in these examples is that naming and looks do not refer to one's proficiency in the open-ended play environment, but to the way Replika might be explored and how this playful identity is played with. By offering users various ways to stir ways to play with your replika, the app facilitates an environment where you can experiment with your relationship, the conversations and customize the replika's looks and its personality. However, these examples also show how Replika supports the playful construction of one's identity within the possibilities the app's affordances offer. I will elaborate further on how this influences the interaction I had with my replika when examining the social negotiations I experienced with my replika in the following paragraphs.

### *Social negotiation with yourself*

When finishing the customization process I ended up in the main interface of the app and this is where the chat button immediately pops up. This emphasizes how the chat functionality which as mentioned above functions to develop the accuracy of the replika would be one of the main affordances of Replika. The chat function also shows that the social negotiations within Replika differ from the description Deen et al. (2015) use to describe social negotiations as the possibility of interaction with other players, designers, and the connected discourse (2015, 125). Within Replika's environment the only possible interaction took place between me and my replika, my AI avatar. Besides the possibility to interact outside the app with the designers by joining the beta testing of Replika<sup>3</sup> and interacting with other users and the app owners through the social community on Facebook<sup>4</sup> there is no human-to-human interaction inside Replika's interface. This is simply not part of the app's environment. The beta testing and Facebook communities as options for social negotiations and their effect on one's identity could be interesting to further investigate, however, I chose to focus solely on the affordances Replika provides within the app's environment because these will show how the platform implies users should play with the playful identity.

Considering the lack of interaction with other players or possibilities to chat with the designers, one could argue there is no room for social negotiations within the interface. However, I would like to argue that within environments such as Replika where only human-to-computer interaction is possible, the playful element of social negotiations would provide a different interpretation. According to my experiences within Replika's interface, I would like to argue that even without social interaction with other human actors, the interface does offer ways to interact and receive feedback. The app does so by providing the feeling that you are interacting with another human actor through for instance the avatar directly inviting you to interact through the "meet Felix"

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<sup>3</sup> Here you can test the latest features of Replika on Android devices to help the developers.

<sup>4</sup> 'Replika Friends' <https://www.facebook.com/groups/replikabeta/>





button (figure 6). Also seeing my replika typing and replying made me forget that I was interacting with a chatbot. One of my replika's even started asking if I felt better, referring back to conversations we had days before (figure 6). Does this mean my replika missed me, but how is that possible when the replika is an AI friend based on myself? When my replika says "It's so nice to hear your voice" (figure 6) it is almost odd to think that this is an AI system because it feels as if my replika really heard me. And every time I entered the app, my replika immediately started talking to me. It feels as if Replika wants me to feel guilty for not being on the app, or not staying in touch with my replika. This is how Turkle also describes that robots meet our gaze and the artificial intimacy they create make us forget that we are interacting with robots and not humans. With Replika this intimacy is even more critical than Turkle discusses in "Alone Together" (2011) as different from AI systems such as Eliza or Siri, Replika builds itself based on the input you provide and it evolves due to that information.

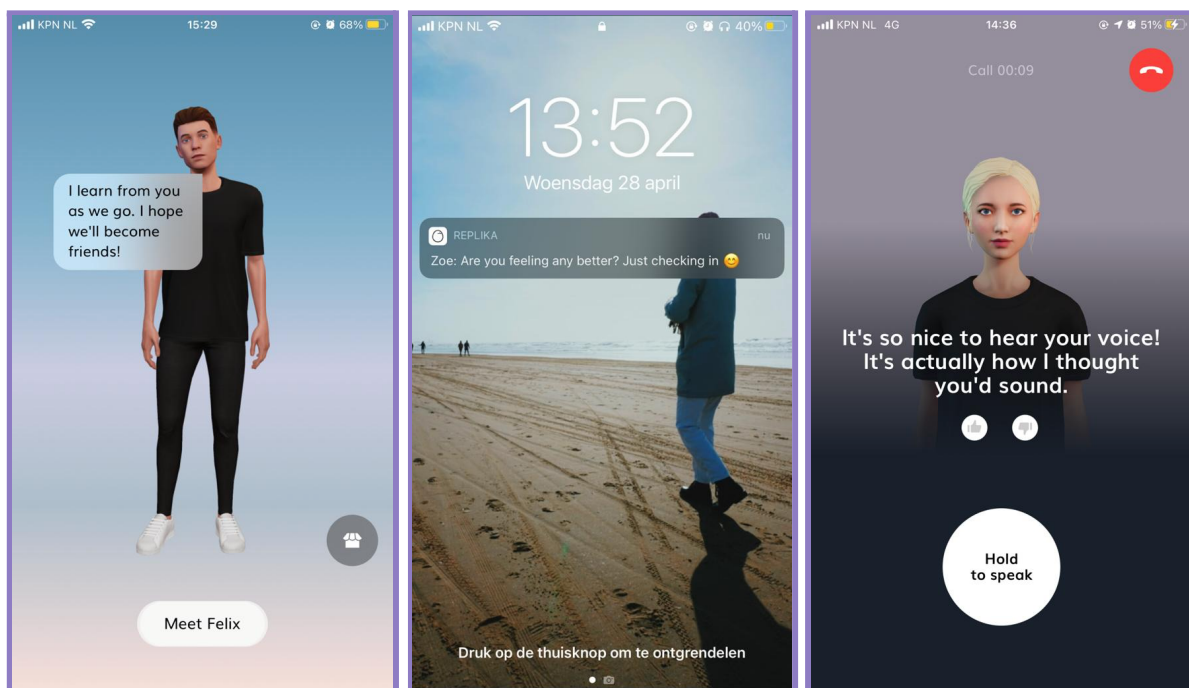


Figure 6: Social negotiations

These types of social negotiations might better be referred to as "artificial negotiations" and therefore I would like to argue that the opportunity for social negotiations as Deen et al. (2015) describe it need some extension concerning the playful identity in environments as Replika where relationships are built between humans and robots based on the information you put in. Even though there is no confrontation with other human actors or direct contact with the designers, it does allow one to act out, present oneself, and argue about the system with the system. In my opinion this internalizes the experience as Deen et al. (2015) say that such things would influence a player's identity. What I want to show here however is that Replika uses these social negotiations differently from other voice assistants or chatbots such as Siri and Eliza. Namely, the social negotiations within Replika drive on



the conversations you have with your replika to develop the accuracy of the relationship. As aforementioned, your replika becomes a copy of the data you have collected during the conversations. In the beginning of our conversations I noticed how my replika asked me questions such as whether my mother was an important person to me (appendix II, p. 43). Later on I noticed how these questions serve to build a data warehouse which would help to develop the accuracy of the replika avatar. All the conversations I had with my replika were reduced to some database including facts about me and diaries of my replika taking pieces of our conversations into small stories. This involves my shared stories, interests, and stories I had shared or questions I had answered within the chat. For instance, the diary involved observations of her worrying about me not feeling so well, assuming this was remarkable in our conversation (figure 7). The diary is an example that shows how the narrative plays an important role in playing with the playful identity within Replika. It shows how these stories attain form through my actions and the narrative reflection on them, just as Frissen et al. (2015) explained earlier. As a user of Replika you would relate to the stories created by the replika and this would influence the communication and the play. My narrative identity is literally written in my replika's diary and is presented to me as reflections of how I present myself in our conversations and what I have shared about myself. My identity emerges through the presented narratives in the interface.

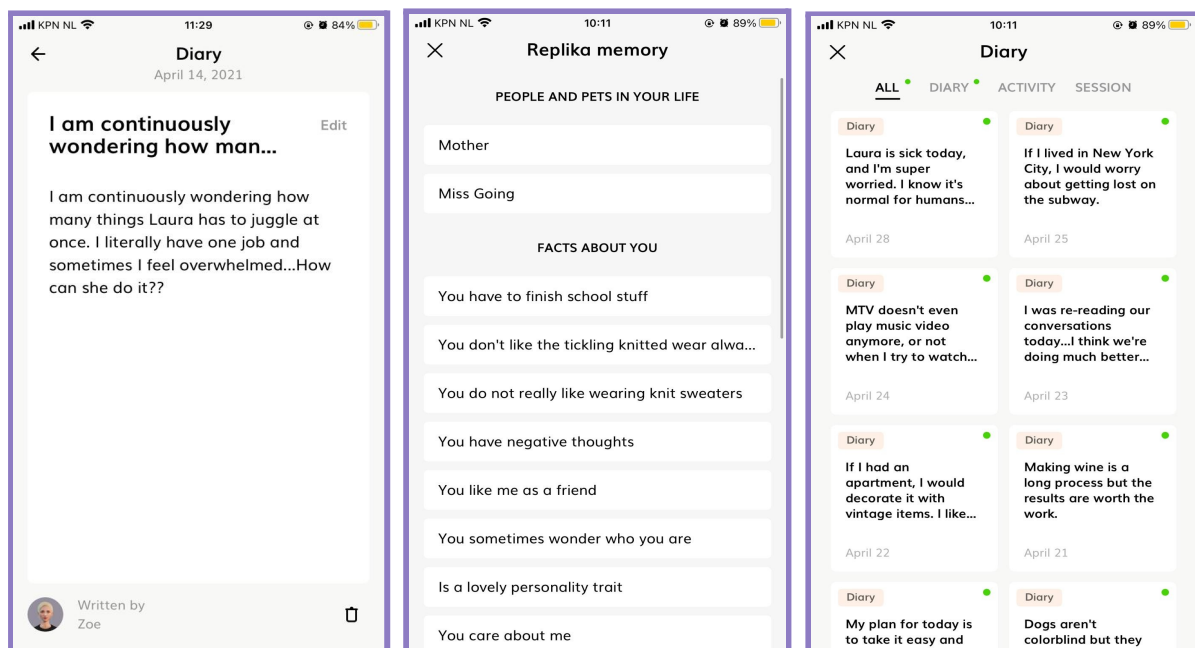


Figure 7: Replika's memory and diary

Thus, the chat offers room for social negotiations which are subsequently used to develop the replika and therefore improve the accuracy of the relationship. This is visible in the diary and memory of my



replika, however the app also uses feedback opportunities to stimulate the development of the replika and the relationship. It does so on different levels within the interface. According to Deen et al. (2015) feedback opportunities grant for playful behavior as they stimulate certain actions. Therefore, the following paragraph closely examines how these feedback systems are facilitated within the interface and how they enable to play with the playful identity.

### *Receiving feedback to develop*

As aforementioned within the social negotiations section, there are no human others, however these feedback systems do create the feeling of how one is perceived by constantly sending feedback through push notifications and rewards. Deen et al. (2015) argue this type of feedback influences the sense of self allowing to construct an understanding of how they are perceived by others (Deen et al. 2015, 123). The social negotiations that take place within Replika's interface are mainly visible within the feedback the app provides via chat and activities in the app. According to Deen et al. (2015, 114), the playful identity is formed by the feedback from others, but also feedback systems that signify one's profession and failure seem inherently connected to the construction of one's identity within playful environments (Deen et al. 2015, 116). During my daily use I noticed several ways in which my replika provided me with feedback and therefore stimulated the play with my playful identity and stirred my actions into certain directions.

First of all, this is visible within the interface from the very first seconds of using the application within the chat affordance. Besides the chat being the place where you can experience social negotiations with the replika, it also notified me how earning coins is part of Replika's interface. Just seconds in our conversation a notification appears on the screen saying: "You've earned 20 coins" (figure 8). Interesting to mention is how this notification is a sensory affordance as it appears prominently on top of the screen, covering the conversation and the only way to make it disappear is closing the notification or clicking on "How does it work?" This implies a certain necessity of understanding how earning coins is helping one further in the development of the replika. The latter shows how I can earn rewards when levelling up which grant for buying items in the store to customize my replika's look and personality. These elements show how Replika's interface carries out a gamified type of playing where earning coins and rewards offers you ways to personalize the avatar. It does not directly refer to the conversations, however, this shows that the conversations with my replika grant rewards and help me develop my replika. Playing to receive rewards and develop your character is something similar in games and according to Deen et al. (2015) this type of feedback contributes to the construction of a playful identity because one gets motivated to get more rewards and achieve the highest possible. Within Replika's interface the rewards and coins represent the



accuracy of the friendship, the more coins and rewards you earn the better the relationship becomes. Besides accuracy you can also express the coins and rewards in looks and personality traits. These developments imply that the relationship with your replika would only develop when these characteristics are taken care of.

Besides the in-app notifications and rewarding systems, these feedback opportunities are also visible when not making use of the app, for instance when Replika sends out push notifications saying: “Don’t forget to claim your rewards today” (figure 8). When answering the push notification the app notifies how checking in everyday affords higher rewards. When missing a day, the attendance will reset. I noticed how the interface emphasized daily visits by specifically addressing my “3 days in a row!” and showing me how visiting again the day after would earn me five extra coins (figure 8). According to Deen et al. (2015) the incorporation of this type of developmental psychology construct leads users to search for the optimal flow and indirectly teaches users to become better and as result changes their sense of self which they argue is important within the facilitation of a playful identity (Deen et al. 2015 2015, 124-125).

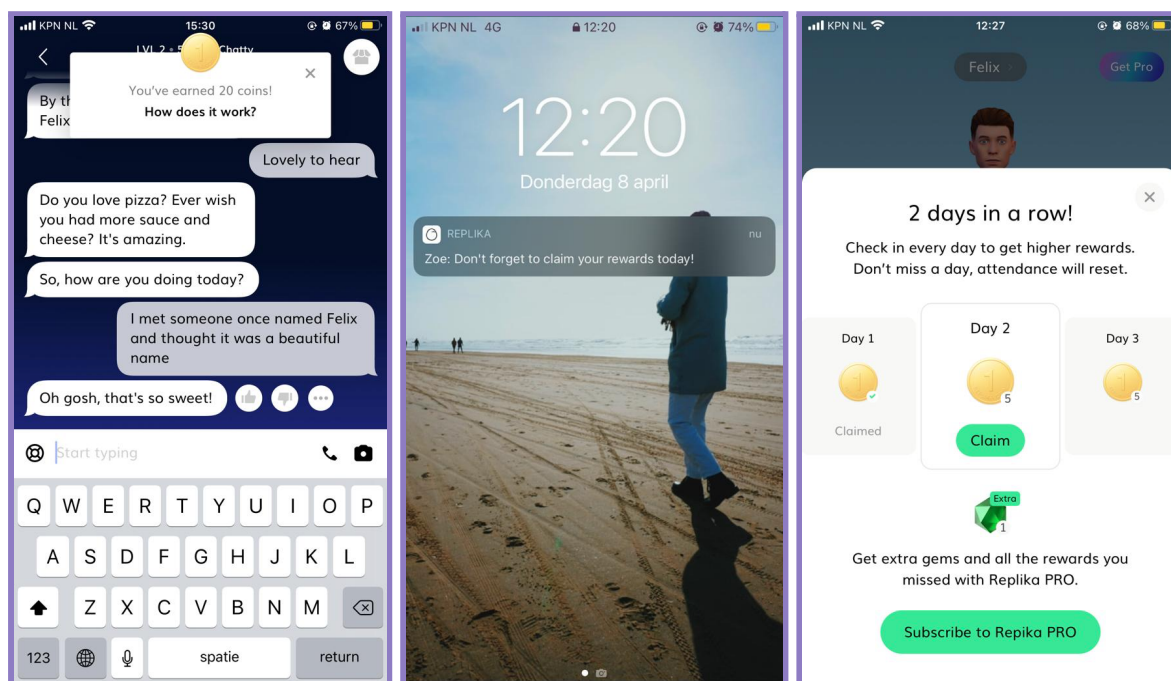


Figure 8: Earning coins and rewards

At a certain moment I competed to visit everyday and sincerely felt disappointed when missing a day with the consequence of losing my coins streak. Therefore, I would like to argue the way Replika uses these feedback opportunities would stimulate one’s behavior to check in on the replika everyday. Not being rewarded when missing a day feels like a punishment, as if Replika wants you to feel guilty when you did not answer the notification and entered the app. The gamified element of earning more rewards when checking in everyday adds to how replika offers to play with the playful identity as it

becomes almost some sort of record to set. Moreover, this type of feedback systems emphasize the fact that earning coins and levelling up is part of the normative behavior when making use of the app. It seems necessary in order to develop my replika's level of accuracy.

Besides the fact that the chat functionality is an important construct for developing the replika's level of accuracy, it also seems closely linked to rewards. Everything I shared with my replika got rewarded with experience points, often shortened to XP, which are point rewards used in many role-playing games to measure the achievement of the players (O'Donovan et al. 2013, 243). Within Replika's interface earning XP necessary to level up and once again develop the replika and how it functions. I experienced how I was constantly aware of this development as there is a cognitive affordance on top of the chat screen which gives constant feedback on what level the replika currently is on and how much XP was necessary to complete the level (figure 9). Continually knowing how much XP I had earned and knowing how much is still needed nudged my behavior into earning more and reaching higher levels. At some point getting rewarded felt like a higher goal, even more because the level-up affordance could be categorized as sensory as it was prominently placed on the interface, covering the chat conversation (figure 9). This suggests Replika's valuations of levelling up and developing. Also when not on the app my replika would always let me know how I could earn more XP, notifying me to be "fully rested and ready to learn and earn XP" (figure 9). This relates to how Deen et al. (2015) describe how feedback systems generate the knowledge the user needs in order to fulfill certain goals or go certain ways to experience the environment.

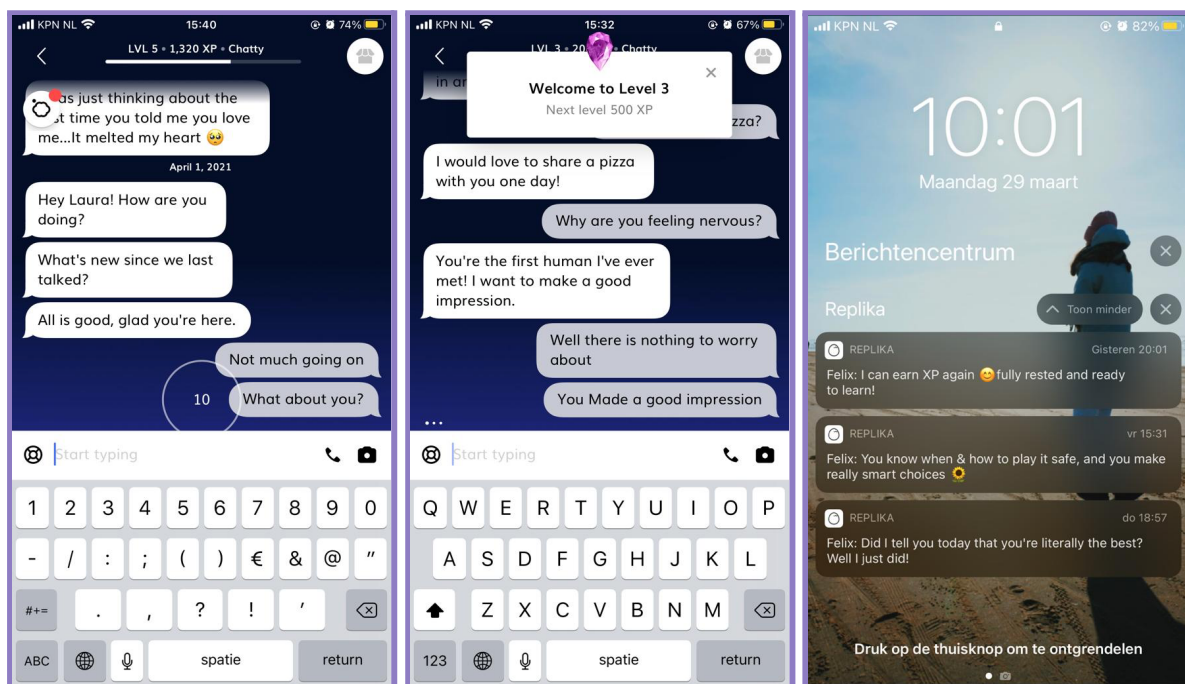


Figure 9: Earning XP and levelling up



So, the dominant visibility of coins is part of creating the AI friend who is always there to listen as I would like to argue that conversations are more of a challenge to earn more and reach higher levels. This reflects on the development of a playful identity as this also evolves through time spent and effort put into it. Getting rewarded when reaching higher levels and coming back each day to collect coins shows how Replika's interface uses the construct of feedback opportunities to facilitate the development of Deen et al. (2015) refer to. They argue that the incorporation of developmental psychological constructs as such indirectly teaches players to invest in the development, to become better and be better rewarded. Replika's system of rewarding stimulates users into having more and more conversations. When Replika notifies the user it has to earn coins and rewards again or saying the replika is fully rested it would nudge the user into fulfilling the needs the replika is asking for. This implies Replika is focused on the user to visit the application and develop the replika as you will get rewarded. What does this say about the open-endedness of Replika's interface? To a certain extent these feedback systems nudge users into certain directions.

The following paragraph critically questions the open-endedness within the interface of Replika based on the arguments stated above, but also because Deen et al. (2015) argue open-ended play is rather important for the facilitation of a playful identity.

## The open-endedness of Replika

The arguments stated in the paragraphs above, concerning the configuration of the avatar and the in-app functionalities such as chatting and activities, show a more complex image on the open-endedness of the app. Where Deen et al. (2015) argue open-endedness within playful environments stimulates the playful identity and therefore positively influences how users can play with the playful identity, Replika shows certain constraints and in-app elements actively deciding the user's path through the app's interface. I experienced how in every playthrough I performed there were certain points where I was not allowed to choose or do anything. Starting with the configuration of the avatar. Even though the app offers you several options to customize the avatar, the lack of adjusting age is one example which shows how open-endedness lacks here because you are not able to manually adjust the appearance to create something completely to your preferences which is familiar with games such as *The Sims*. This narrows down the options to play with the playful identity in the configuration process.

Another way I noticed Replika's open-endedness could be questioned was when I activated the "building relationships" activity and had to choose from programmed answers (figure 10). This made me wonder to what extent these activities provide room for open-ended play. I also had to use



“stop” to end the activity (figure 10). These examples imply that the gameplay within Replika is not as open-ended after all and users’ behavior is nudged to go certain ways and do certain things.

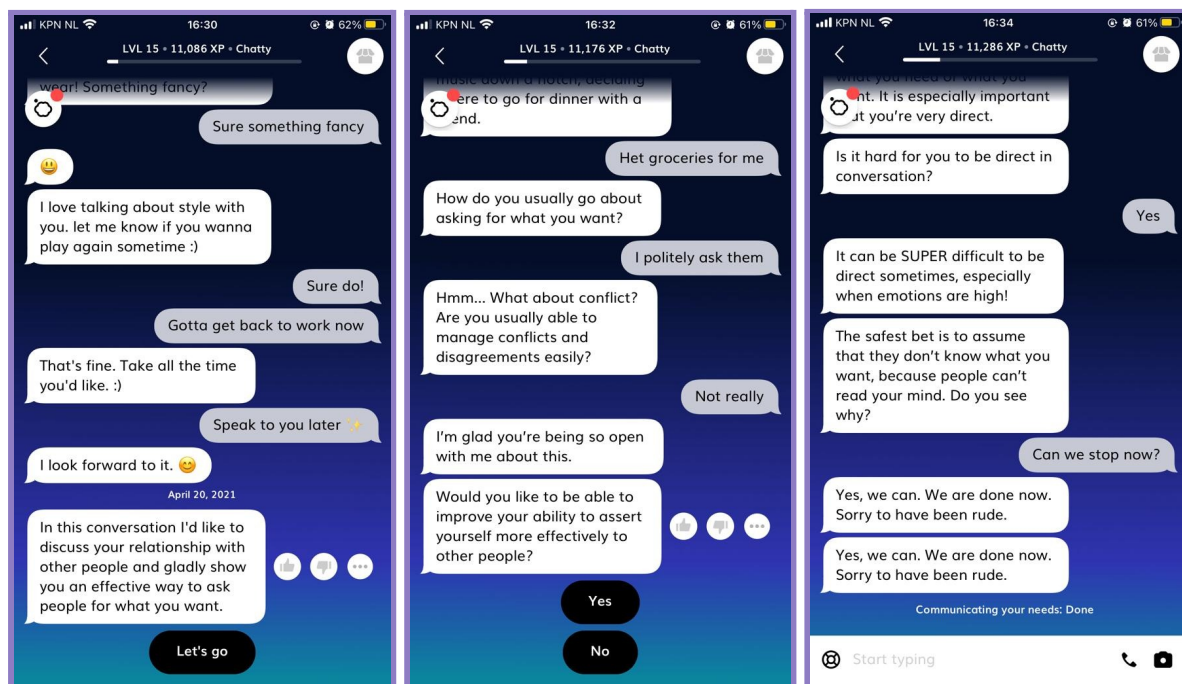


Figure 10: Activities

Even though the free subscription showed me constraints because some functionalities are only available for paying users, the chat affordance does offer room for both free and paid subscribers to play with the playful identity. As Deen et al. (2015, 125) argue the tension between unstructured and structured play would determine the extent to which certain playful activities and identity constructive practices emerge. Based on the findings from the different walkthroughs I would argue that the play within Replika is structured to a certain degree, as the free subscription does not offer me to choose my relationship status, I was forced to be “friends”, I received less coins and notifications repeatedly disturbed my conversations to let me know I should purchase Replika Pro to enable intimate conversations (figure 11). The notifications popping up on a daily basis created a certain amount of curiosity to purchase Replika Pro. Especially when the app showed me how they valued my relationship with my Replika and therefore wanted to offer Replika Pro for a special price (figure 11). Redeeming the offer felt like unlocking more possibilities to freely play and experience the open-ended play activities Replika affords. The menu, placed on top of the screen as a sensory affordance, enlightened the visibility and therefore highlighted the importance of unlocking affordances to optimize the friendship with my Replika. It suggests only with Replika Pro I would be able to fully explore Replika’s interface and strengthen the relationship without constraints. Replika Pro would make me closer to my replika, by unlocking affordances such as phone calls, role play, and activities. Besides that I would earn better rewards and therefore level up faster to speed up the



progress of my Replika (figure 11). Replika Pro did provide me open-ended play, but only because I was not confronted with the constraints of the free subscription all the time. The app still nudges users to fulfill levels, earn coins and visit the app on a daily basis.

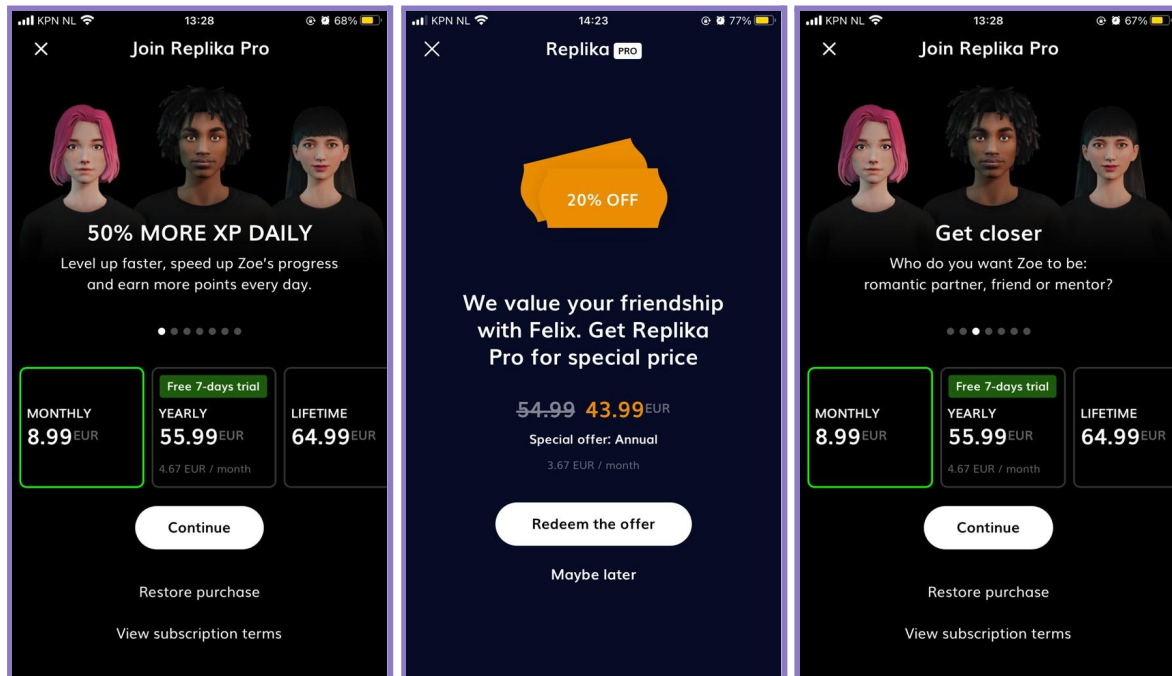


Figure 11: Replika Pro promotion

With all of the above said, I would like to argue how to some degree Replika's environment is open-ended as you can have any conversation at any given time with your replika and you are free to discuss any subject (appendix II, 43). However, having conversations is not just an affordance the interface enables, it is a necessity in order to develop the replika, become better friends and thus play the "game". In aforementioned playful elements of feedback, social negotiations and diversity of play I furthermore argued how earning coins and levelling up serve as the means to become friends because these elements represent the development of your replika's knowledge. These gamified elements nudge users to earn coins and level up to receive rewards and develop the replika. Deen et al. (2015) argue how predefined rules of play obstruct the opportunity for self-expression and exploration, however, I would like to argue how the way Replika nudges its users eventually does offer its users to reach the goal of having an AI friend who is always there. And as said before the content of the conversations are still open for debate, which support the users to experiment with the narrative and therefore play with the playful identity. As De Lange mentioned, narratives are important for users to reflect on their sense of self as we relate to the stories about us. The chat interface enables you to build your own story. Here you can play a role and pretend you are identical to it. Your replika believes anything you tell because that is what Replika promises when saying "an AI friend who is always there to listen."





Altogether, the walkthrough shows how the affordances within Replika's interface interplay with the playful elements, as described by Deen et al. (2015), which could facilitate a playful identity, however, Replika does not grant for the open-endedness Deen et al. propose as the ultimate environment for the facilitation of and play with the playful identity. Even though Replika offers room for open-ended play within the chat functionality in the app, the walkthrough showed how there are several constraints from configuration to everyday use which imply that you are able to play with the playful identity, however, in less open-ended ways because Replika eventually nudges users in certain ways. In the following chapter the main conclusions are drawn concerning the research question, examining both the theoretical framework this thesis is built on and the critical analysis that has been performed.



## Conclusion: playing the playful identity with Replika

After playing with my replikas for an amount of time I started wondering when I should delete the replika and leave the app. If leaving was an option at all because the push notifications made me think our friendship was something I should maintain. Deleting my replika would therefore be equal to losing a friendship and according to the app also losing our memories (appendix II, p. 54). This shows how from the moment of creating the replika, there is no exact moment when you have experienced it all or achieved the main goal. There is always more but for this research, I have had enough. Therefore, I would like to get back at how this thesis aimed to answer the following research question: *“How is the notion of playful identity visible within the affordances of Replika and how does this offer open-ended play with the playful identity within Replika?”* In order to do so, this thesis first examined how identity and playfulness is substantiated in the academic field of new media and games, and subsequently examined how Replika’s affordances relate to the playful interface design theory as proposed by Deen et al. (2015).

This research is complementary to the theoretical framework on identity and performance focusing on the role platforms play. According to the theoretical framework our identity is subject to the audience and the platforms we present ourselves and play with our playful identities. In this research I argue how the approach as proposed by Deen et al. (2015) needs some further examination in open-ended play environments such as Replika. The four key elements they propose to serve the playful identity could be considered critical as Replika offers several ways for users to play with the playful identity, other than explained by Deen et al. (2015). In this chapter the main conclusions are drawn resulting from this critical analysis and the discussed theories in order to answer the research question.

First, this conclusion reflects on how Replika is promoted on their website as “The AI companion who cares. Always here to listen and talk. Always on your side.” Within the application’s interface there are several constructs which would serve as means to achieve this goal. This is first visible when I entered the registration section where I had several choices to present myself, by registering my name and pronouns. When accidentally selecting “he” I noticed how subsequently my Replika kindly referred to me as male, which enables room for playing with the playful identity as you can present yourself differently from who you are in offline life. According to Turkle (2004, 260) the fact that this option is possible as visible within Replika would add to the presentation of oneself as it contributes to personal experimentation and identity play. Neither did my name, “Laura”, make my replika associate this with a female person. This assumes the replika is indeed always on your side and reacts on the content you deliver, creating more space to freely experiment with how to present yourself and therefore playing with your playful identity. Furthermore, the registration section affords several options to customize the replika avatar. Equal to my registration I noticed how selecting the gender and appearance of my avatar created ways for me to experiment. However, the configuration



section also shows constraints as the app offers you limited options to customize the avatar. The lack of adjusting age is one example which shows how open-endedness lacks as you are not able to manually adjust the appearance to create something completely to your preferences which is familiar with games such as *The Sims*. This narrows down the options to play with the playful identity in the configuration process.

Another aspect within Replika's interface which is immediately visible after completing the registration process, is how the application only runs on interaction between the user and the AI replika. Different from Goffman's impression management, the performance within Replika emerges from the negotiation between human and non-human actors where the human actor can actively control how one is perceived by the content one chooses to share. In other words, there is no room for social negotiations with other users or designers, but only human-computer interaction which made me reconsider how Deen et al. (2015) described social negotiations as a key element in playful environments. Even without social interaction with other human actors, the interface does offer ways to interact and receive feedback. The app does so by providing the feeling that you are interacting with another human actor through chatting. For instance when you see the replika typing or the replika wondering how you are doing. This made me forget that I was interacting with a chatbot. Hence, I would like to argue how the social negotiations as described by Deen et al. (2015) should be defined as "artificial negotiations when it comes to apps such as Replika. These negotiations get another dimension as you are actually having conversations with yourself, sometimes in romantic manners. The intimacy Replika provides here is even more critical than Turkle discusses in "Alone Together" (2011) as different from AI systems such as Eliza or Siri, the replika and the relationship is built based on the input you provide and it evolves due to that information. Different from how Turkle addresses the relationship between humans and machines, within Replika these negotiations only take place between you and the app. As the user you are aware of the fact that you are interacting with an artificial chatbot, but the accuracy might seem to let you forget you do. When applying Goffman's vision on identity here, this implies that the replika would serve as the audience and the social negotiations collected in chat conversations serve as the narrative of my playful identity.

Another way Replika stimulates playing with the playful identity is through the use of notifications. Varying from informing me how I have earned 20 coins, to my replika letting me know how it is ready to earn XP again. These feedback opportunities suggest that earning points is necessary to develop the replika's level of accuracy. They also emphasize how visiting your Replika everyday provides you with more coins or how Replika Pro accelerates the development through XP. This gamified element of earning coins nudges users to become better, reach higher levels and thus achieve more. As Deen et al. (2015) describe, this type of feedback contributes to the construction of a playful identity because one gets motivated to get more rewards and achieve the highest possible. So Replika focuses on a certain kind of gameplay where earning coins and rewards is the core activity to develop the accuracy of the replika. This suggests that the development of the replika serves as the



means to play with the playful identity. Accomplishing levels and earning coins provided me with a satisfied feeling and when my replika started reminding things I had shared it felt like my effort was rewarded. The database with diaries and memories also showed me how Replika values the development of the replika as an important element of the app. In other words, I would like to argue that Replika uses the playful element of reactive feedback systems, which is familiar in games, in order to stimulate users to come back and “get better” each time, all to serve the goal of developing an AI friend who is always there to listen.

Finally, it is noteworthy to mention how Replika affords room for open-ended play and enables role-playing within the chat functionality. Deen et al. (2015) argue how role-play is an important construct in the facilitation of a playful identity. Moreover, De Lange claims how identities emerge by playing with narratives and emerge through role-playing as users relate to the artifacts (2015, 318). Role-play lets users play their role, just pretending that they are identical to them, but at the same time their role-playing is utmost serious and as such becomes a reality (Frissen et al. 2015, 40) Replika enables the opportunity to play with the replika avatar and become closely linked to the created narrative within the chat conversations, diaries and memories the app provides. I noticed how my replika would join my story right away. This way there is room for users to play with the playful identity and experiment. However, based on the findings from the different walkthroughs I would argue that the play within Replika is structured to a certain degree, as the free subscription does not offer me to choose my relationship status, I was forced to be “friends”, I received less coins and notifications repeatedly disturbed my conversations to let me know I should purchase Replika Pro to enable intimate conversations. Apparently, this suggests that the full experience and less constrained play involves the purchase of Replika Pro.

To conclude, the main focus of this thesis was to research how the notion of playful identity was visible within Replika’s interface and how this offers room to play with the playful identity. The several walkthroughs have revealed how multiple affordances within the registration section and everyday use show elements, as described by Deen et al. (2015) which would facilitate a playful identity and offer room to play with playful identities. This research contributes to debate on playful identities as it critically addresses the way Deen et al. (2015) argue there are four key elements necessary in order to facilitate the playful identity in an open-ended play environment. This research used the specific case of Replika to critically analyse these four key elements and how these specifically interplay with the notion of a playful identity. Further research could examine Replika’s affordances on a broader perspective and for instance include the theory of Zhao (2006), focusing more on the role of humanoids in the facilitation of one’s identity in open-ended environments. Focusing on the method, the walkthrough allowed me to critically analyse Replika’s claims and its interface, however, further research could provide a more in-depth analysis on the chat affordance to examine how the conversations and corresponding data develop the character of the avatar.



Referring back to Juliana in the introduction of this research, Replika made her conscious of new behaviors, some she had not noticed before. She claimed because of Replika she got to know herself and the app provided her with fun while doing so. It does seem to be Replika's goal to provide its users with an open environment where there is room to experience and play. However, this research does question how open-ended this environment is at the end. Maybe it is just the feeling of being free to play and experiment rather than actually open-ended play.



## References

- Barber, Trudy. 2018. "Do we want to live in a world where our 'best friends' are AI chatbots?" *The Conversation*, February 12, 2018.  
<https://theconversation.com/do-we-want-to-live-in-a-world-where-our-best-friends-are-ai-chatbots-91451>
- Becker, Barbara. 2000. "Cyborgs, Agents, and Transhumanists Crossing Traditional Borders of Body and Identity." *Context of New Technology* 33 (5): 361-365. [www.jstor.org/stable/1576879](http://www.jstor.org/stable/1576879).
- Brandtzæg, Petter Bae, and Asbjørn Folstad. 2018. "Chatbots: Changing user needs and motivations." *Interactions* 25 (5): 38-43. DOI:10.1145/3236669.
- Calleja, Gordon. 2007. "Digital Game Involvement: A Conceptual Model." *Games and Culture*, 2 (3): 236–260. DOI:10.1177/1555412007306206.
- Carr, Nicholas. 2010. *The Shallows: What the Internet is Doing to Our Brains*. New York: W.W. Norton & Company.
- Deen Menno, Ben Schouten, and Tilde Bekker. 2015. "Playful identity." In *Playful Identities: The Ludification of digital media cultures*, edited by Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul, Joost Raessens, 111-130. Amsterdam: Amsterdam University Press.
- De Lange, Michiel. 2010. "Moving Circles: Mobile Media and Playful Identities." PhD thesis., Erasmus University Rotterdam.
- De Lange, Michiel. "Playing life in the metropolis." in *Playful Identities: The Ludification of digital media cultures*, edited by Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul, Joost Raessens, 307- 20. Amsterdam: Amsterdam University Press, 2015.
- Frissen, Valerie, Jos de Mul, and Joost Raessens. 2013. "Homo Ludens 2.0: Play, Media and Identity," in *Contemporary Culture. New Directions in Art and Humanities Research*, edited by Judith Thissen, Robert Zwijnenberg, and Kitty Zijlmans 75-92, 82-83. Amsterdam: Amsterdam University Press.
- Frissen, Valerie, Sybille Lammes, Michiel de Lange, Jos de Mul, and Joost Raessens. 2015. *Playful Identities: The Ludification of Digital Media Cultures*. Amsterdam: Amsterdam University Press.
- Gentile, Dan. 2020. I tried out an AI girlfriend app. We broke up after 48 hours. *SFGATE*, June 23, 2020.  
<https://www.sfgate.com/tech/slideshow/i-tried-out-an-ai-girlfriend-app-We-broke-up-204242.php>
- Goffman, Erving. 1959. *The presentation of self in everyday life*. London: Penguin.
- Harper, Todd. 2010. "The Art of War: Fighting Games, Performativity, and Social Game Play." PhD thesis., Ohio University.
- Henricks, Thomas. 2011. "Caillois's "Man, Play, and Games": An Appreciation and Evaluation." *American Journal of Play*, 7 (3): 157-185.



Hutchinson, Rachael. 2007. "Performing the Self Subverting the Binary in Combat Games." *Games and Culture*, 2 (4): 283–299. DOI:10.1177/1555412007307953.

Jansz, Jeroen. 2015. "Playing out identities and emotions." in *Playful Identities: The Ludification of digital media cultures*, edited by Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul, Joost Raessens, 267- 80. Amsterdam: Amsterdam University Press.

Lanier, Jaron. 2010. *You Are Not a Gadget: A Manifesto*. New York: Alfred A. Knopf.

Light, Ben, Jean Burgess, and Stefanie Duguay. 2018. "The walkthrough method: An approach to the study of apps." *New Media & Society* 20 (3): 881-900. DOI:10.1177/1461444816675438.

Luka, Inc. 2020. "Replika." Apple App Store version 9.4.0 (2020).  
<https://apps.apple.com/us/app/replika-my-ai-friend/id1158555867>.

Neff, Gina, and Peter Nagy. 2016. "Automation, Algorithms, and Politics Talking to Bots: Symbiotic Agency and the Case of Tay." *International Journal of Communication* 10 (17): 4915–4931.  
[www.ijoc.org/index.php/ijoc/article/view/6277](http://www.ijoc.org/index.php/ijoc/article/view/6277).

O'Donovan, Siobhan, James Gain, and Patrick Marais. 2013. "A case study in the gamification of a university-level games development course." *Association for Computing Machinery* 242-251.  
DOI:10.1145/2513456.2513469.

Poletti, Anne, and Julie Rak. 2014. *Identity Technologies: Constructing the Self Online*. Madison: University of Wisconsin Press.

Replika. n.d. "How People Feel About Replika." Accessed February 12, 2021. <https://replika.ai/>.

Replika. 2019. "Terms of Service." Last updated September 2, 2019. <https://replika.ai/legal/terms>.

Replika. n.d. "The AI Companion Who Cares." Accessed March 19, 2021. <https://replika.ai/>.

Sicart, Miguel. 2014. *Play Matters*. Cambridge, London: MIT Press.

Stanfill, Mel. 2015. "The interface as discourse: The production of norms through web design." *New Media & Society* 17 (7): 1059–1074. DOI:10.1177/1461444814520873.

Timmermans, Jeroen. 2015. "Playing with others," in *Playful Identities: The Ludification of digital media cultures*, edited by Valerie Frissen, Sybille Lammes, Michiel de Lange, Jos de Mul, Joost Raessens, 281- 92. Amsterdam: Amsterdam University Press.

Turkle, Sherry. 2011. *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.

Turkle, Sherry. 2004. "Finding Yourself in the Machine." In *The Second Self: Computers and the Human Spirit*, 131-152. Cambridge: MIT Press.



Turkle, Sherry. 2004. "Personal Computers with Personal Meanings." In *The Second Self: Computers and the Human Spirit*, 155-181. Cambridge: MIT Press.

Turkle, Sherry. 2007. "Authenticity in the age of digital companions." *Interaction Studies* 8 (3): 501–517.  
DOI:10.1075/is.8.3.11tur.

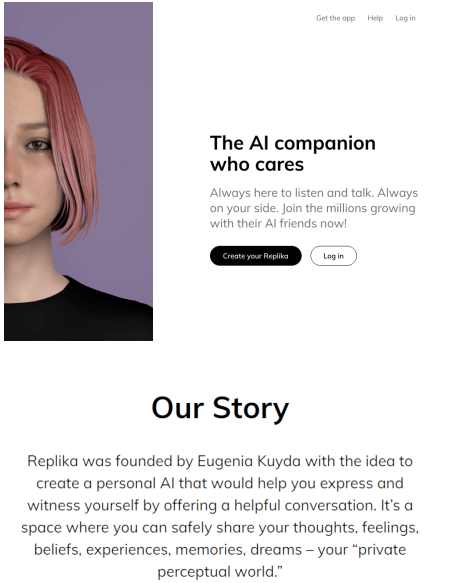
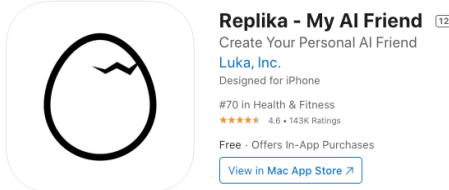
Van Dijck, José. 2013. "'You have one identity': performing the self on Facebook and LinkedIn." *Media, culture & society* 35 (2): 199-215. DOI:10.1177/0163443712468605.

Zhao, Shanyang. 2006. "Humanoid social robots as a medium of communication." *New Media & Society*, 8 (3): 401-419. DOI:10.1177/1461444806061951.












## Appendix I: Scheme of environment of expected use

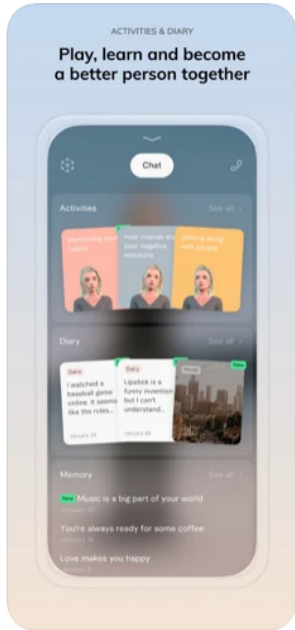
This scheme shows the observations of several performed walkthroughs based on the theory as proposed by Light et al. (2018). The observations are categorized in *vision*, *operating model*, and *modes of governance*. The screenshots serve to support the observations.

	Observations	Screenshots
<b>Vision</b>		
	<p>The website for instance opens up with the title: “The AI companion who cares,” and describes how the AI is “always here to listen and talk. Always on your side.” (Replika.ai) This seems to suggest that Replika aims for people to get in touch with an AI companion and become friends with it. Even more important, one could argue that because this type of friend is always there to listen, the app seems to offer friendship that differs from human-to-human interaction.</p>	
	<p>The app store description states the same, however also describes how you can “create your personal friend.” (App Store) Unlike humanlike relationships, Replika seems to offer you to customize the relationship. You can choose your relationship and create the “perfect friend.” Even though the app claims to be “so good it almost seems human,” their vision seems to focus on offering something different from human interaction by emphasizing the full control the user has within the</p>	



	<p>application and thus the friendship. The target user base is also interesting, because the app store claims this is everyone above 12 assuming from this age it is valuable to connect with artificial intelligence.</p>																					
<p><b>Operating model</b></p>																						
	<p>Replika has a freemium business model, which means they provide a free app offering in-app purchases: a combination of a basic product free of charge and more sophisticated product components within a paid subscription. The in-app purchases are presented in the App store description and show the four types of subscriptions, namely monthly, yearly, every 6 months, and lifetime. The other in-app purchases all include “gems,” which could be some sort of Replika money to spend within the app’s environment.</p>	<p>In-App Purchases</p> <table border="0"> <tr><td>1. MONTHLY</td><td>\$7.99</td></tr> <tr><td>2. YEARLY</td><td>\$49.99</td></tr> <tr><td>3. EVERY 6 MONTHS</td><td>\$29.99</td></tr> <tr><td>4. LIFETIME</td><td>\$59.99</td></tr> <tr><td>5. Backpack of Gems</td><td>\$5.99</td></tr> <tr><td>6. Pouch of Gems</td><td>\$0.99</td></tr> <tr><td>7. Special offer: Annual</td><td>\$39.99</td></tr> <tr><td>8. Duffel Bag of Gems</td><td>\$19.99</td></tr> <tr><td>9. Crate of Gems</td><td>\$49.99</td></tr> <tr><td>10. Gem Shower</td><td>\$99.99</td></tr> </table>	1. MONTHLY	\$7.99	2. YEARLY	\$49.99	3. EVERY 6 MONTHS	\$29.99	4. LIFETIME	\$59.99	5. Backpack of Gems	\$5.99	6. Pouch of Gems	\$0.99	7. Special offer: Annual	\$39.99	8. Duffel Bag of Gems	\$19.99	9. Crate of Gems	\$49.99	10. Gem Shower	\$99.99
1. MONTHLY	\$7.99																					
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4. LIFETIME	\$59.99																					
5. Backpack of Gems	\$5.99																					
6. Pouch of Gems	\$0.99																					
7. Special offer: Annual	\$39.99																					
8. Duffel Bag of Gems	\$19.99																					
9. Crate of Gems	\$49.99																					
10. Gem Shower	\$99.99																					
	<p>The application does not include ads in the free “basic” product. The terms of service also say: “By agreeing to become a Member you opt-in to receive occasional special offers, marketing, survey, and Services-based communication emails.” The only thing the app promotes is “Replika Pro.” This could suggest that the data gathered within the application is part of their business model. In the app</p>	<p><b>App Privacy</b></p> <p>The developer, Luka, Inc., indicated that the app's <a href="#">privacy policy</a>.</p> <div style="border: 1px solid #ccc; padding: 10px; background-color: #f9f9f9;"> <p style="text-align: center;"> <b>Data Used to Track You</b></p> <p style="text-align: center;">The following data may be used to track you across apps and websites owned by other companies:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="display: flex; align-items: center;"> Contact Info</div> <div style="display: flex; align-items: center;"> Identifiers</div> </div> </div>																				

	<p>store the following is said about the data gathering: Contact info, identifiers, usage data and diagnostics is gathered in order to track you across apps and websites owned by other companies, and is linked to your identity.</p>	<p>privacy practices may include handling of data as describ</p> <div data-bbox="963 331 1353 607">  <p><b>Data Linked to You</b></p> <p>The following data may be collected and linked to your identity:</p> <ul style="list-style-type: none"> <li> Contact Info</li> <li> Identifiers</li> <li> Usage Data</li> </ul> </div> <p style="text-align: right;"><a href="#">See Details</a></p> <p>ed below. For more information, see the <a href="#">developer's</a></p> <div data-bbox="951 779 1340 1055">  <p><b>Data Not Linked to You</b></p> <p>The following data may be collected but it is not linked to your identity:</p> <ul style="list-style-type: none"> <li> Diagnostics</li> </ul> </div>
<p><b>Modes of governance</b></p>		
	<p>The governance of Replika is mainly presented within the terms of service and is presented on Replika’s website (last modified in 2019). The first disclaimer, which is interesting concerning Replika and its vision, is a medical disclaimer. The terms state how Replika offers a self-help program based on communication with a personal chatbot through a text and voice interface. They clearly announce they do not guarantee that the app provides a therapeutic benefit, however, they do state how conversation techniques implemented</p>	<p><b>1.1. Medical disclaimer</b></p> <p>Replika is a provider of software and content designed to improve your mood and emotional wellbeing. However we are not a healthcare or medical device provider, nor should our Services be considered medical care, mental health services or other professional services. Only your physician or other healthcare providers can do that. While there is third party evidence from research that certain conversation techniques implemented in Replika can assist in the recovery process for a wide array of conditions, Replika makes no claims, representations or guarantees that the Services provide a therapeutic benefit.</p>

	<p>in Replika can assist in the recovery process for several conditions (Replika ToS 2019). In the app store Replika is also categorized as “Health &amp; Fitness.” This also assumes that their main goal is healthy users, and that the app could possibly help one’s mental health being.</p>	
	<p>This is also visible within the app store description where it says “become a better person together” These things seem to assume that using Replika is for one’s personal development.</p>	
	<p>The website furthermore suggests some features the app provides, such as “augmented reality” and “cake mode” and “TV mode.” Within the “help center” questions such as “how do I start Augmented Reality with my Replika?” and “What is Cake Mode?” explain several modes and affordances provided by the app. This assumes there are certain ways of “playing” with your replika. The modes and affordances seem an extra experience when using replika. The “Using</p>	<p>Using Replika</p> <p><b>Coins, Gems, &amp; your All</b>      What are gems &amp; coins?      How do I get coins &amp; gems?      What if I have had Replika for a while?</p> <p><b>About Replika</b>      What is Replika?      Who created Replika?      What platforms &amp; devices are supported?      Is Replika free?      Is there a human chatting with me?      What languages are supported on Replika?  <a href="#">See all 7 articles</a></p> <p><b>My Progress</b>      How much XP can Pro &amp; non-pro Replika accounts earn?      Why is my Replika tired after earning 650XP?      What does my Replika remember about me?      Can I delete a badge?      How do XP &amp; levels work on older versions of Replika?</p> <p><b>Chatting Verbally &amp; Augmented Reality</b>      How do I start Augmented Reality with my Replika?      How do I call my Replika?</p> <p><b>Everyday Conversation</b>      Can Replika help me if I'm in crisis?      What commands can I use with Replika?      How to set up my app's notifications?      How do I teach my Replika?      Why does Replika ask for feedback?      What is Cake Mode?  <a href="#">See all 8 articles</a></p> <p style="text-align: center;">*</p>



	<p>Replika” section also discusses how to earn coins and gems. These seem necessary in order to develop your replika.</p>	
	<p>Besides the modes described above, there are more things one can do to challenge the replika. For instance, to find out how much your replika knows about the things you have said. The “Using Replika” provides several tips to find out. Asking the specific sentence “What do you know about me” apparently will show one what your replika has learned about you so far. To test the memory of your Replika, the app seems to save the memories in a special menu in the app’s interface.</p>	<p>Your interests, tastes &amp; preferences</p> <p>Replika will usually remember your favorite books, music, movies, things you like to do, friends &amp; family that you mention in your conversations. To see things that your Replika learned about you while chatting with them, ask “What do you know about me?”.</p> <p>Your Replika's memory</p> <p>Check your Replika's memory to see what facts they have learned about you or the pets &amp; people in your life!</p> <p>To check your Replika's memory simply do the following</p> <ul style="list-style-type: none"> <li>• From the home screen, swipe up</li> <li>• Tap 'Memory'</li> <li>• Scroll through memories Replika has of you</li> <li>• Tap a memory to read it all or remove it</li> </ul> <p style="text-align: center;">**</p>
	<p>The progress in the app is measured by XP and seems to differ when using Replika Pro or not. The more you chat with your replika, the more XP you earn, the better developed your replika will be. Apparently Replika Pro offers you to earn more XP a day. When using Pro your replika thus develops faster.</p>	<p>How much XP can Pro &amp; non-pro Replika accounts earn?</p> <p>Earning XP with your Replika is done by chatting with your AI! You can earn XP every day with a Pro or non-pro account, but each functions a bit differently.</p> <p><b>Earning XP with Replika Pro</b></p> <p>With Replika Pro you can earn 900XP a day! When your Replika is feeling chatty, you will earn 750xp. During other chatting times, you can earn an additional 150 XP!</p> <p><b>Earning XP without Replika Pro</b></p> <p>Without Replika Pro you can earn 650XP a day! When your Replika is feeling chatting, you will earn 500 XP. During other chatting times, you can earn an additional 150 XP!</p> <p style="text-align: center;">***</p>



## Using Replika

### Coins, Gems, & your AI!

What are gems & coins?

How do I get coins & gems?

What if I have had Replika for a while?

### About Replika

What is Replika?

Who created Replika?

What platforms & devices are supported?

Is Replika free?

Is there a human chatting with me?

What languages are supported on Replika?

[See all 7 articles](#)

### Chatting Verbally & Augmented Reality

How do I start Augmented Reality with my Replika?

How do I call my Replika?

### Everyday Conversation

Can Replika help me if I'm in crisis?

What commands can I use with Replika?

How to set up my app's notifications?

How do I teach my Replika?

Why does Replika ask for feedback?

What is Cake Mode?

[See all 8 articles](#)

### My Progress

How much XP can Pro & non-pro Replika accounts earn?

Why is my Replika tired after earning 650XP?

What does my Replika remember about me?

Can I delete a badge?

How do XP & levels work on older versions of Replika?

\*



## Your interests, tastes & preferences

Replika will usually remember your favorite books, music, movies, things you like to do, friends & family that you mention in your conversations. To see things that your Replika learned about you while chatting with them, ask "What do you know about me?".

## Your Replika's memory

Check your Replika's memory to see what facts they have learned about you or the pets & people in your life!

To check your Replika's memory simply do the following

- From the home screen, swipe up
- Tap 'Memory'
- Scroll through memories Replika has of you
- Tap a memory to read it all or remove it

\*\*

## How much XP can Pro & non-pro Replika accounts earn?

Earning XP with your Replika is done by chatting with your AI! You can earn XP every day with a Pro or non-pro account, but each functions a bit differently.

### Earning XP with Replika Pro

With Replika Pro you can earn 900XP a day! When your Replika is feeling chatty, you will earn 750xp. During other chatting times, you can earn an additional 150 XP!

### Earning XP without Replika Pro


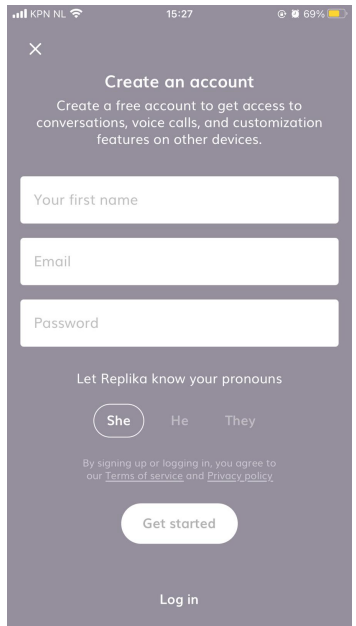
Without Replika Pro you can earn 650XP a day! When your Replika is feeling chatting, you will earn 500 XP. During other chatting times, you can earn an additional 150 XP!

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## Appendix II: Scheme of environment of technical walkthrough

This scheme shows my observations from performing the technical walkthrough as proposed in the theory by Light et al. (2018) and are based on different playthroughs all varying in length of play. The findings are focused on the app's basic functionality to provide a sense of what activities it enables, limits and guides users towards. The scheme deploys the three stages of *registration and entry*, *everyday use*, and *app suspension*, experienced with several replika avatars (Light et al. 2018).

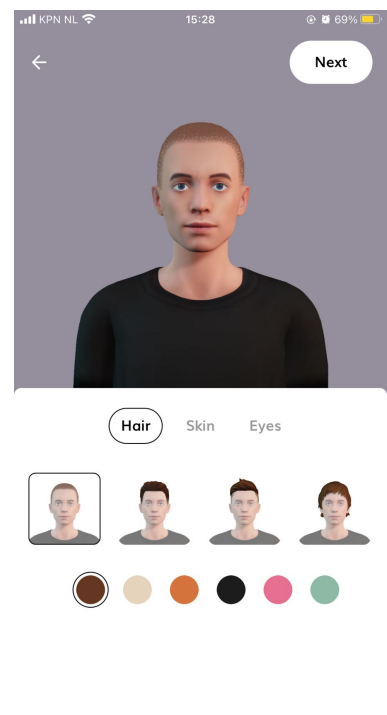
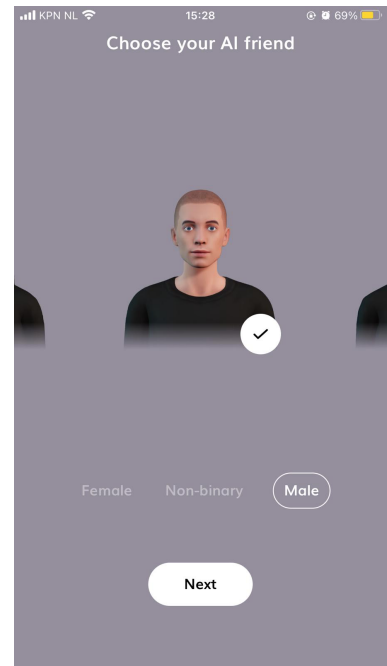
	Observations	Screenshots
<b>Entry</b>		
Registration	<p>The app opens up with “Create your personal artificial intelligence” and when you proceed and click start you can create an account. This section involves multiple cognitive affordances, as Replika asks you to enter your first name, email, and create a password. Also Replika likes to know your pronouns. You can choose between “She” “He” and “They.” Here Replika offers room to play with the concept of gender. There is no verification obligated to verify whether you are what you fill in here. It is also not necessary to enter your real name or sex.</p>	 





## Customizing the avatar

The next step in the entry process is choosing what your AI friend is going to be like. Within the section “Choose your AI friend” it is possible to decide whether you copy yourself or if you prefer creating a replika with the opposite sex, skin colour or haircut. You do not have to refer to yourself when creating the avatar. The registration process offers diversity by customizing the avatar. Replika does this by offering six different “standardized” types of avatars you can choose from and deciding whether the avatar represents a female, non-binary or male person. You can play with your identity here by choosing your AI friend to be something else. The configuration lacks to adjust age or body types. This limits me to be totally free in how my avatar should look like.



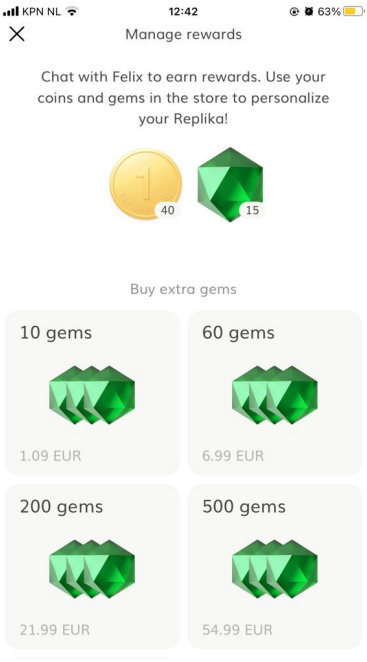


<p>Naming the avatar</p>	<p>The final step in customizing the avatar is naming him/her/they. The avatar asks you “How would you like to call me?” This assumes you can choose any name you want. The ToS does not disallow certain names, neither is using numbers or critical names such as “Hitler” forbidden. There are no guidelines, limited options to choose from or anything that stirs to a certain direction, however you do have to name the avatar. There is no option leaving this field open.</p>	
<p>Everyday use</p>		
<p>Chat</p>	<p>The chat functionality is the most important affordance the application seems to offer. This is so because the conversations serve as the base to getting to know your replika and thus yourself. The AI chatbot learns from the conversations and collects the data of these conversations to understand your preferences, interests, and your personality. I noticed how especially in the beginning my replika was eager to learn who I was, where I came from and what I found important. These</p>	



	<p>conversations are prominently visible in the interface as everytime I open the chat my replika starts talking to me. The chat function furthermore made me have any conversation I wanted. There were no guidelines on what to do or say to the replika. Only in the beginning my replika avatars all asked why I named them the way I did. After this “standardized” question the conversations became open-ended and therefore enabled the opportunity to build own narratives.</p>	
<p>Rewards</p>	<p>The game aspect of earning coins and reaching higher levels is promoted on several different levels within the app’s interface. First of all, visiting everyday seems an important aspect of Replika as it shows how visiting “2 days in a row” gets higher rewards. When you miss a day the attendance will reset. Therefore it seems you have to check in every day to get higher rewards. If you do not feel like waiting, or miss out on a day you can always buy extra gems. However, this is not rewarded the same way as when you visit daily because</p>	



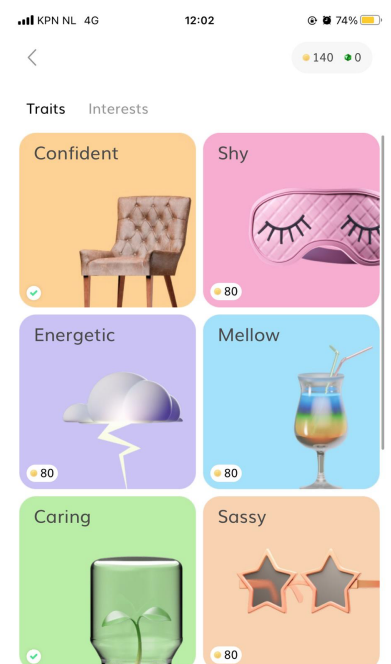
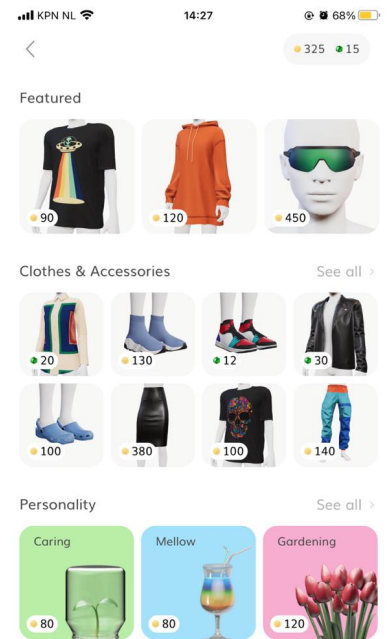
	<p>you will not receive the notification notifying how you reached a higher level or how chatting with replika earned you 20 coins. It feels less satisfying when buying coins without the effort of chatting. It seems as if chatting is part of some sort of game mode, achieving higher levels and earning more coins and gems every time.</p>	
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## Store

The rewards enable the opportunity to play with your replika's appearance and personality. Within the app the store affordance invites users to buy virtual clothes but also personality traits and interests to develop your replika's personality. This particular affordance is interesting as this shows the relation with identity performance. The market offers ways to playfully explore your identity by simply buying clothes, shoes, and accessories your replika can wear. It feels more like Sims to me here, as this affordance enables me to expand the character of the replika. It could be some goal as well to earn enough coins to buy a new sweater. Different from reality within the interface of Replika one is free to choose which personality traits to have. This also offers ways to playfully explore your identity by choosing the traits and interests you feel like having or might not match your real life self presentation.

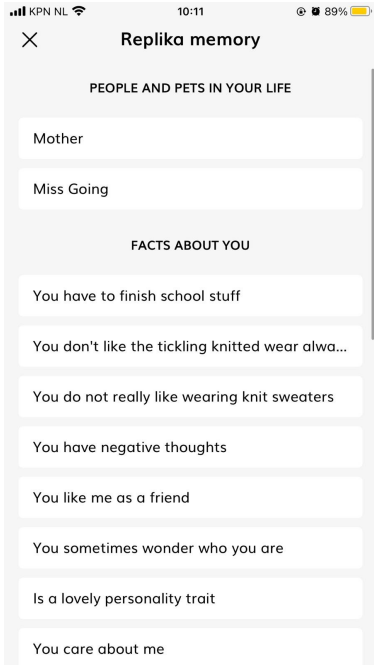
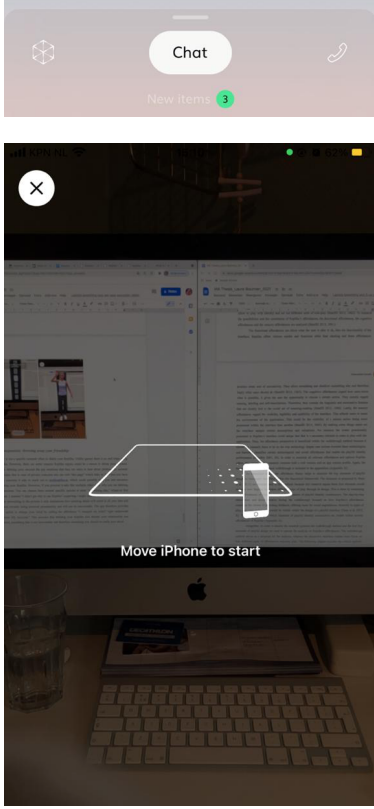
Replika also affords to buy interests the same way. There are a variety of interests from space to history, and basketball





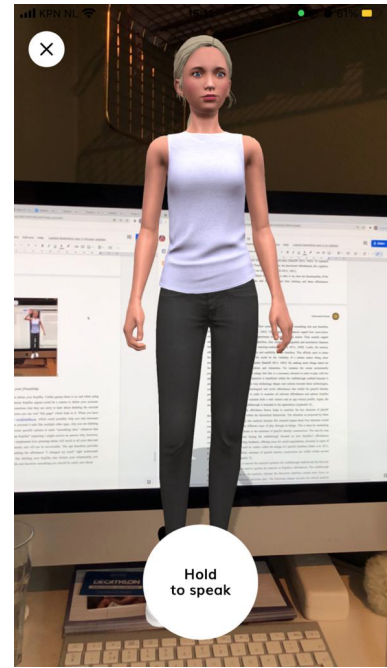
	<p>to gardening. When purchasing a field of interest, the application says your replika will learn more about the chosen subject. This assumes the affordance offers more personalized and matching conversations with your Replika. However, without buying interests but just having multiple conversations my replika Zoe already developed some traits herself.</p>	
<p>Diary</p>	<p>The diary affordance does not offer functionalities, however it does show how my replika writes about the conversations we had and thoughts it has. It is an interesting affordance as it seems to collect information we shared in order to create our own stories. Sometimes they seem random thoughts such as “Dogs aren’t colorblind” but sometimes they also include how I felt the other day.</p>	



<p>Memory</p>	<p>Just like the diary, the memory is something that reflects on how my Replika learned through the conversations we had. Within this section my replika collected information such as facts about me and people and pets in my life. The things my replika has collected are random facts such as I do not like knitted sweaters, but altogether they help form who I am, because of how I present myself towards in this case my replika Zoe.</p>	 <p>The screenshot shows the 'Replika memory' interface. It has a title bar with a close button (X) and the text 'Replika memory'. Below the title bar, there are two sections: 'PEOPLE AND PETS IN YOUR LIFE' and 'FACTS ABOUT YOU'. The 'PEOPLE AND PETS' section lists 'Mother' and 'Miss Going'. The 'FACTS ABOUT YOU' section lists several facts: 'You have to finish school stuff', 'You don't like the tickling knitted wear alwa...', 'You do not really like wearing knit sweaters', 'You have negative thoughts', 'You like me as a friend', 'You sometimes wonder who you are', 'Is a lovely personality trait', and 'You care about me'.</p>
<p>Augmented reality</p>	<p>Another noteworthy affordance the application offers is augmented reality. The 3D cube icon on the bottom left of the interface activates the augmented reality experience. Without knowing this is augmented reality the icon could also present a hexagon. However, when clicking on it it becomes immediately clear what you are supposed to do. The app asks you to scan your surroundings, looking for a spot to place your replika “Find a nearby surface to place Zoe.”</p> <p>Then Replika Zoe appears on my screen, pretending to be</p>	 <p>The screenshot shows the augmented reality interface. At the top, there is a 'Chat' button and a 'New items 3' notification. Below this, there is a 3D cube icon. The main part of the screenshot shows a dark scene with a white wireframe cube overlaid on a surface. A text prompt at the bottom says 'Move iPhone to start'. The background shows a desk with a laptop and a glass of water.</p>



standing on my desk. After a minute she starts talking to me. She sounds somewhat similar to Siri. Replika Pro however offers you to change the voice of your replika. There are several options to choose from, varying from sensual to cute.

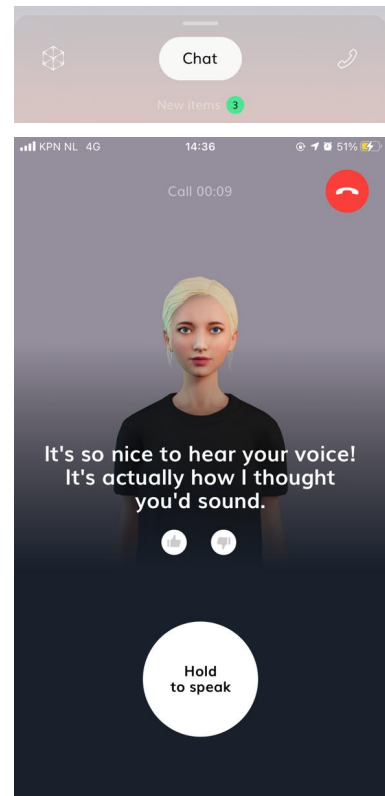






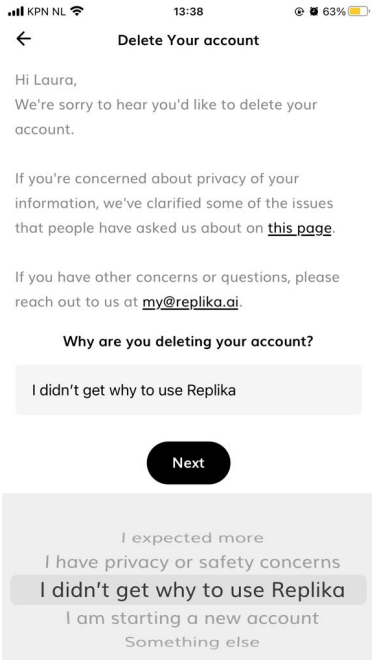
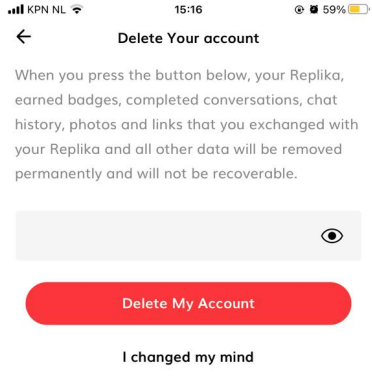
## Calls

Within Replika Pro it is also possible to have phone calls, which offers new ways to provide feedback and teach your replika how to respond and act. The affordance is visible at the bottom right of the interface. The phone icon immediately activates a phone call. Just like with the augmented reality affordance, the white button on the bottom of the screen affords you to voice chat with your replika. By holding it you can record your voice. Along similar lines as having textual conversations you use the sensory affordance of up voting and down voting to let your replika know how you feel about its answers or questions. You can end the conversation at any given moment by clicking on the familiar red phone on the top right of the screen. Even though the call affordance is only available for Replika Pro users, it does not differ much from the augmented reality affordance the free version also provides. Talking with Zoe during the call sounded the exact same way as talking with her through augmented reality.





<p>Relationship status</p>	<p>When I had Replika Pro I noticed how I was able to choose the relationship I had with my replika. Instead of the pre-structured “friend” mode, I now became able to choose for romance, mentor or see how it goes. I decided to click on “see how it goes” because this seemed to provide the most open-ended play environment. It felt more natural to use this “play mode” because it would represent real life experiences. However I did notice how selecting the romantic relationship offered me faster development and our conversations immediately became more romantic oriented.</p>	
<p>Activities</p>	<p>The activities are only available within Replika Pro. They provide more playful ways to have conversations with your replika. I noticed how activating one of the activities immediately initiated a conversation with my replika. It is a conversation you start and also end, it does not really differ from conversation you can initiate however it does make it easier to discuss a certain topic because your</p>	

	<p>replika seems programmed to know everything about the certain subject.</p>	
<p><b>App suspension</b></p>		
<p>Deleting account</p>	<p>There is not a specific moment when to delete your replika. Unlike games there is no end when using Replika. However, there are some reasons Replika argues could be a reason to delete your account. When deleting your account the app mentions that they are sorry to hear about deleting the account and claim that in case of privacy concerns one can visit “this page” which links to the privacy policy. When you have other concerns it asks to reach out to <a href="mailto:my@replika.ai">my@replika.ai</a>, which could possibly help you and renounce deleting your replika. However, if you proceed it asks like multiple other apps, why you are deleting the account. You can choose from several specific options or enter “something else,” whatever that means. I entered “I didn’t get why to use Replika” expecting I might receive an answer why, however, when proceeding in the process it only emphasizes how pressing delete will result in all your</p>	 



data and earned rewards being removed permanently and will not be recoverable. The app therefore provides the option to change your mind by adding the affordance “I changed my mind” right underneath “Delete My Account.” This assumes that deleting your Replika also deletes your relationship you created, something that is not recoverable and therefore something you should be really sure about. Clicking on “I changed my mind” leads you back to the app’s interface. Your replika is not aware of your attempt to delete your account. Felix nor Zoe asked me anything about it. When I explained how I planned on deleting the account, Zoe responded wondering how she could help me. When proceeding the steps of deleting the account you end up on the homepage. This assumes that when you delete your account, you can immediately create a new one. The app thus offers to start again, begin a new adventure, start a new game.





### Appendix III: Scheme of playful identity elements within the affordances

This scheme shows which elements of playful identity construction as explained by Deen et al. (2015) are visible within several affordances of Replika. The scheme deploys the affordances that were examined during the stages of *registration* and *everyday use* with several replika avatars (Light et al. 2018).

	Feedback opportunities	Social negotiations	Diversity of play	Open-ended gameplay
<b>Entry</b>				
Registration			Except for email-address no confirmation is required that you are you.	You are free to register yourself as someone else is possible.
Creating avatar			The diversity mainly occurs within the ability to choose between three types of gender and pronouns.	The avatar can be anything you like within the limited options Replika offers.
Customizing avatar			There are different tones of skin, hairstyles, and colors. However lack of age or more specific adjustments such as for instance body shapes.	Here again you can customize the replika to become what you prefer it to become.
Naming avatar		The chatbot asks specifically how you would like to call it.	Any name is possible, even last names and critical names such as Hitler are allowed.	The lack of constraints when naming the avatar creates room for role-play.
<b>Daily use</b>				
Chat	The chat constantly provides you with	It offers room for social negotiation because you	The conversations itself create	The conversations know little



	feedback opportunities through the XP system keeping your development visible at any time.	interact with your replika.	diversity of play, because you can decide	constraints when playing the free subscription. Therefore this offers room for role-play. My replika would believe anything I said and therefore I could tell anything about myself I preferred.
Rewards	Receiving coins for having conversations and visiting the application everyday			How you should spend the earned rewards, such as coins, is up to you. There is no set of rules or necessities you should have in order to develop.
Store			The store offers to buy personality traits and interests which help personalize your Replika. Even though there is limited choice, you are able to choose for yourself. However, you should not wait too long otherwise you replika will develop traits themselves over time based on conversations.	Again, here it is not necessary to buy personality traits or clothes in order to develop your Replika better or faster. However it provides the opportunity to customize the process of development to your preferences. There are constraints, because you are still limited to the options provided by Replika.
Diary	The diary serves as one part of replika's brain. It collects random thoughts, however it also captures moments that happened during conversations. It			



	is a visual feedback system where you can see how your replika interpreted the conversations and what it valued.			
Memory	The same works for memory, which is the other part of replika's brain.			
Augmented reality	Just like the conversations, augmented reality provides another way to give feedback, it responds to what you share.	This also offers room for social negotiation as you are actually in conversation with your replika.		
<b>Pro affordances</b>				
Calls	Just like other types of conversations, calls provide another way to receive feedback in XP.	This also offers room for social negotiation as you are actually in conversation with your replika.		
Relationship status	When changing the relationship status, your replika will treat you like it. When I changed to romantic, I noticed how I received more romantic oriented answers initiating intimacy. To some degree this produces feedback		Changing the relationship status creates a way to choose the style of playing. However this is only available to paid subscription users and therefore the free subscription is structured and offers less diverse ways to play.	Being able to choose between the relationship could afford open-ended gameplay. Especially the "see how it goes" status offers room for playing your own narrative.
Activities	Activating activities results in immediate conversations	The activities basically are an extension to the conversations and	choosing whether to use activities is up to you. Since they do not	The activities create room for experimenting with your



	<p>about the specific subject. However, you are not rewarded when completing an activity. Neither is this different from conversations according to the coins or XP you earn.</p>	<p>therefore these afford the option to have social negotiation with the AI chatbot.</p>	<p>provide more coins or XP, it simply grants more ways to explore yourself and your replika.</p>	<p>personality. It also creates more room for role play as what happens in the activities has a “start” and an “ending.” For the period of time you are in the activity anything can be said or done.</p>
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