

The Silent Population: How to Increase Social Activity in a Virtual Universe and Unveil the  
Confines of the Mobile Application Paradise

Noor EL-Hawwat

**Undergraduate Honors Thesis submitted  
to the Honors College at Rutgers University-Newark  
in partial fulfillment of the requirements for the degree of Bachelor of Arts in  
School of Arts and Sciences Newark with Honors College distinction**

*Advised by Melanie A. Smith, M.A.*

Newark, New Jersey

May, 2024

Keywords: smartphone, addiction, entrepreneurship, escapism, social media, messaging,  
applications, introversion, loneliness, mental health, COVID-19

### **Abstract**

The COVID-19 pandemic created a period of enforced self-isolation and, consequently, a rise of loneliness with the birth of a new global experience of modern life. However, under the surface of renewed freedom lies a scattered society finding solace in communicating online, preferably on handheld devices, despite having the liberty to talk to people around them. The new interest in virtual socialization bred a plethora of possibilities for mobile application businesses to apply new features that solidify this norm and therefore their profits. Once the global society bonded with advancement in mobile application engineering, it became evident that the path to creating a more holistic and sustainable structure for interaction is through the mobile application industry itself, reconfiguring already used tactics for an opposite, positive, effect on its users. The product of this negotiation is OctoLink: a mobile messaging application purposed to help individuals who identify with loneliness and isolation break out of their shells and build long-lasting connections in the online and physical world. OctoLink works as an anti-messaging app by building communications between users solely through the application's recommendations rather than the user importing information of already made friendships from their personal lives. This paper delves into the foundation of OctoLink through a discussion of modern-day integration of manipulative features in technology on human psychology and how they can be altered for a positive effect on socialization, the user interface and procedures for experiencing the app, the business plan to bring the app to market, and a jumping off point for progressing research and efforts in this field.

## Table of contents

Introduction.....	4
Key Resources.....	7
Explanation of the App.....	9
Table 1 <i>Explanation of the OctoGames</i> .....	11
User Interface Description.....	18
Figure 1 <i>Landing page</i> .....	18
Figure 2 <i>Default Text Page</i> .....	20
Figure 3 <i>OctoGames Page</i> .....	20
Figure 5 <i>First Connection Experience</i> .....	21
Figure 6 <i>Layout of the Text Page Suggestion 1</i> .....	22
Figure 7 <i>Layout of the Text Page Suggestion 2</i> .....	23
Figure 8 <i>Dropdown Menu of Personalized Options</i> .....	25
Business Plan.....	26
Conclusion.....	28
References.....	30

## The Silent Population: How to Increase Social Activity in a Virtual Universe and Unveil the Confines of the Mobile Application Paradise

### **Introduction**

The twenty-first century opened doors for a spectrum of technology that simplifies the ways humanity can integrate their necessities into compatible and reliable measures. With these solutions came the invention of smartphones: pocket-sized devices that hold applications that are each designed with a purpose to please their user, in addition to being used for phone calls. The rise of mobile applications segways to a virtual market where users venture between aisles of categories to compile their choices of pleasurable pastimes with the ease of clicks and dings. With the integration of this routine into human life comes the competition for mobile application companies to develop the new normative experience that will guarantee consumer satisfaction and keep them hooked on their devices under the control of a multi-billion dollar industry [“What is a Smartphone? A Mobile Phone and Computer in One Device,” Reviewed by Eric Estevez]. The consumption of mobile applications users fall into reshapes daily life into a machine powered by smartphones creating an addiction.

Smartphone addiction is an overabundance of smartphone use that triggers an unconscious dependency on the device allowing it to become the primary source of its owner’s happiness. Like other addictive stimulants, the use of smartphones releases dopamine, a happiness neurotransmitter in the brain, to keep users enticed on their devices and drag out their stays in their virtual paradise [“What is Dopamine,” by Hope Cristol and reviewed by Smitha Bhandari, MD]. Research shows that escaping the urge to approach a dopamine stimulant is a process that requires the development of an individual’s willpower to create a new routine for

daily life through practice [McGonagal, K (2013). *Title of Work: The Willpower Instinct: How Self-Control Works, Why it Matters, and What You Can Do to Get More of It*. Penguin Random House]. Escaping smartphone addiction is a challenge because the user risks detaching from a spider web woven by the strings of billions of relationships. People who rely on online relationships are vulnerable to failing this challenge as they are accustomed to text-based interactions that maintain isolation from face-to-face interactions located beyond their comfort zones. Individuals who overdose on smartphone use as their escape from personal interactions express signs of introversion, anti-socialization, insecurity, and social anxiety that influence a preference for virtual over physical communication; they are the Silent Population [“Rise of ‘Lonely’ Consumers in the Post-COVID-19 Era: A Synthesised Review on Psychological, Commercial and Social Implications,” by Xueqin Wing].

The Silent Population includes individuals who lack the motivation to engage in consistent face-to-face interactions, due to a lack of interest, confidence, etc., thereby relying on text-based interactions to satisfy their social needs. The virtual world is a comfort zone that liberates them from the stresses of real life, leaving them oblivious to the shifts in their personalities and tempers. For instance, research shows that smartphone users have lower patience as they are accustomed to the satisfaction of immediate gratification caused by the delivery of instant information [McGonagal, K (2013). *Title of Work: The Willpower Instinct: How Self-Control Works, Why it Matters, and What You Can Do to Get More of It*. Penguin Random House]. These reliances beg the question; how can such users increase their willpower to escape the source of their bliss and begin accepting the experiences of face-to-face interaction in their lives? The motion of guiding the Silent Population to develop their social skills requires seeping through the comfort space of their smartphone to undo its addictive impulses, utilize the

psychological measures embedded in its foundation to make a reverse impact on the owner, and congest these possibilities into a smartphone application stabilized as a business.

The tactics that applications use to motivate users to invest hours of their daily routines are summarized into six psychological or economic factors to describe the stimulants and satisfaction of this experience [“Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories”, Christian Montag]. The pressure to fall into addiction begins with the abundance of information provided through the motion of a swipe which keeps the user intrigued as they get pushed into a state of endless scrolling; it shapes the appeal behind short-form video-sharing applications or integrations, such as TikTok, YouTube Shorts, and Instagram Reels. The interaction of virtual users in an application keeps users engaged by building social pressure. It works through the inclusion of an indicator telling the user that their friend read their message thereby nudging them to communicate fast and often, such as WhatsApp’s feature of gray ticks that turn blue when the receiving user reads the text. Users further influence extended visits in the application by building a competitive atmosphere to challenge their abilities to generate the most attention on their posts and comments, as seen with LinkedIn posts that collect the like counts from different users who post the same content and want to compete for the praise of their achievement. Users become the victims and the triggers of each other’s downfall into addiction.

Software designers measure the success of their applications by studying how well they allow users to isolate themselves from the real world through the implementation of psychological effects: the Endowment Effect and the Ovsiankina Effect. The Endowment Effect expands on the user’s liberation from physical stressors into a place of relaxation be it a YouTube video or a Discord group chat. Video based applications continue to attract users through

algorithms that provide recommendations to appeal to the user's unique interests, where the next video provided is similar to one that the user liked. The Ovsiankina Effect conveys the experience of users getting interrupted to finish a task thereby wanting to return later to finish it, such as Spotify's limitation on free users to skip up to five songs per hour. With this feature, the time the user spends away from the application becomes a break before their next visit.

A conversation on the influence of smartphone addiction on the consumer and the wholeness of society is necessary to grasp what lies ahead for future generations as technology proceeds to advance and intersect with human life. By understanding the future, the possibility of developing software that acts as a distance between human life and technology becomes feasible; opening doors for alternatives humanity can take to connect in a global spectrum and effectively create a healthy distance from technology.

### **Key Resources**

To gain a complete insight into the thought process against the implementations of mobile applications and the reliance on the application proposed, an understanding of the primary influences of this paper is crucial. The following articles contribute to the incoming discussions on loneliness, isolation, the psychology of smartphone use, and the harms of existing messaging applications.

Loneliness is associated with a common misconception: loneliness and aloneness are the same. The article "Loneliness: Causes and Health Consequences," by Kendra Cherry MSED, covers the definition of loneliness, its causes, health consequences, symptoms, and provides potential treatments. Loneliness is an involuntary state of mind that urges a separation, rejection, or abandonment from one's surroundings while aloneness is a voluntary separation that helps one balance their time spent with others. Loneliness is expressed when individuals desire social

interaction but struggle to form connections. It results from situational variables, such as physical isolation or moving to a new home, low self-esteem, and personality factors, such as introversion. Long-term experiences of loneliness allude to health risks such as depression, increased stress levels, poor decision-making, and premature aging. With these issues on the table, it is critical to note that loneliness is more prevalent in younger generations, and “the rise of the internet and ironically, social media, are partially to blame” (Cherry). The idea of escaping the virtual barriers of social media involves understanding the cure to loneliness is in the quality of social interaction rather than the quantity. Users are recommended to form a small network of close friends to reduce negative health consequences and build face-to-face (communication in the physical world) contacts to improve well-being. Suggestions for combating loneliness include joining a group of people with like interests, strengthening current relationships, and talking to someone trustworthy, such as a therapist. Cherry concludes with a note to “...just remember that there are always people who can help” (Cherry). The article amplifies the risks social media has on its users’ personal relationships and ultimately well-being as it suggests the practice of face-to-face interactions.

To bring the situation of technology’s influence on loneliness into perspective, a connection must be established to the recent pandemic as it was when the preference of text-based interaction became the preferred means of socialization. The study “The Trajectory of Loneliness in Response to COVID-19,” by Martina Luchetti, Ji Hyun Lee, Damaris Aschwanden, Amanda Sesker, Jason E. Strickhouser, Antonio Terracciano, Angelina R. Sutin is an empirical research paper that offers a trajectory of how loneliness grew over the COVID-19 pandemic to pinpoint the groups that were most affected. By analyzing three experiments, the authors discovered no significant increase in loneliness in American adults, but vulnerable



groups and individuals who lived alone were more susceptible to feeling lonely. The most surprising finding was that individuals may become less lonely, “the feeling of increased social support and of being in this together may increase resilience to loneliness, even among at-risk groups” (Luchetti). Luchetti fortified their suggestion with the comment, “It is possible to feel lonely in a crowd of family and friends and it is possible to feel connected when physically alone” (Luchetti). This idea is amplified by the experience of the recent pandemic stirring individuals’ increase in social skills and attachment to long-term practices of enforced isolation. The article contributes to the concept that individuals feel most connected in spaces of their unique comfort zones and that the right catalyst can improve their mental health during physical isolation. This discussion offers a direction to discovering the type of stimulant needed to rescue out of addiction. Both articles join the conversation on leveraging the possibilities of technology for the betterment of its consumers. In understanding loneliness as a state of mind subject to changes by an individual’s attachment to their community, an opportunity arises to find a solution in the online world through social media.

### **Explanation of the Application**

As an application that reverses the psychological stimulants attracting users to their phones, OctoLink serves as a safe space in the void of monotony consuming the virtual world. OctoLink is a messaging application that pushes users towards their first interaction with the ease of playing a minigame of their choice. Users can be paired or grouped with others into a chat and are guided to hold a series of conversations under the influence of gaining prizes. The motion of taking the normative application experience and reversing its intended effects is what makes OctoLink a leader in the smartphone addiction revolution.

Upon making an account in OctoLink, the user is led to a chat page that presents an empty list of conversations complemented with a still image of an octopus mascot telling them they have no chats. The page is presented with a navigation bar on the bottom allowing access to other pages in the app. The bottom left corner displays a glowing button with the label “TUTORIAL,” indicating the user is recommended to click that feature. Once clicked, the button presents an animated octopus in the same corner that communicates with the user on the empty chat box, promising to help them find a friend with ease. While waving its small legs in the motion of swimming, the octopus continues the tutorial by guiding the user towards the application’s page focused on friendship making, the OctoGames page. Once the user moves to the OctoGames page, they are presented with a layout of eight triangular figures surrounding a central circle, a resemblance to an octopus’ body, and the circle center has three sections inside, representing the octopus’ three hearts.

The animated octopus explains the meaning and layout of the page; the eight legs each point toward a minigame that falls under one or two of three categories of minigames, displayed in the circle’s sections: ideate, communicate, and cooperate. Ideate games are strategy-based activities that test the user’s thought process to pair them with individuals matching their creative thinking. Communicate games put users in a quiz of their choice that tests their knowledge of movies, songs, and video games to let the application locate a friend that has their like interests in pop-culture media. Quiz games are based on the information extracted from recent and large databases that encompass a variety of questions from at least 40 genres for each of the three games. Cooperate games put multiple users in a space to challenge their capacities to solve a task with a team to build friendships organically.

The OctoGames page incorporates the idea of a mobile game application for the purpose of offering users an entertaining and unique experience to be evaluated by the app as they get paired with a user. The page displays a diagram with an octopus-like resemblance that has a circle in its center surrounded by eight triangles stretched out in different directions, each pointing at a minigame. The circle is divided into equal thirds, each labeled with one of the three guiding words of the app: Ideate, Communicate, Cooperate. OctoLink is an app driven to facilitating friendships and is defined by the activities that structure the unique ways a friendship is built, thus having three words as its slogan and center of the OctoGames page. Each word is meant to be a category of a minigame to represent the type of activity the user will engage in from the minigame they chose. The user can click the guiding word on the circle to learn more about the category and what they will be evaluated on. Each minigame is chosen at a difficulty of the user's choice of easy, medium, and hard.

**Table 1: Explanation of the OctoGames**

Ideate	Communicate	Cooperate
Check Mate!: Tests users on their abilities to solve the steps required to make a checkmate in a given scenario.	Guess the Song: A quiz that offers a set of questions (amount varies by difficulty) that test the user's memory of lines from a song that are played in a short clip. The answer can be inserted vocally or by text.	Escape Room: A game that brings five users into a virtual call to adventure into a set of tasks inside a room that involve a team effort to complete and unlock the door to freedom.
[To be decided through future lab studies]	Guess the Movie: A quiz that offers a set of questions (amount varies by difficulty) that test the user's memory of lines from a movie that are played in a short clip. The answer can be inserted vocally or by text.	[To be decided through future lab studies]

[To be decided through future lab studies]	Guess the Show: A quiz that offers a set of questions (amount varies by difficulty) that test the user's memory of lines from a show that are played in a short clip. The answer can be inserted vocally or by text.	[To be decided through future lab studies]
--	--	--

*Note: The minigames in the blank boxes will be developed in future laboratory studies and detailed research to be conducted in graduate school.*

Ideate Games are strategy-based activities that prompt the user's critical thinking skills to solve a task at hand. Depending on their performance of the game, the app will pair them with a user based on the time taken to solve the problem and the amount of correct points made on the problem. This idea is aimed to satisfy the desire for an introvert to meet a friend that matches their creativity mindset ["Introverts Social Needs and Performances," by Carol Bainbridge and reviewed by Shereen Lehman, MS.].

Communicate Games challenge users to test their knowledge of entertainment categories such as movies, shows, and songs to find a friend that has similar interests based on their recognition of a sample from each medium. The difficulty levels are determined by the popularity of the samples, making the higher difficulties yield a more personalized pairing process for the app. In each minigame, users are presented with samples to name, in the form of snippets of text or videos, depending on the game. The user has two options to name the sample by vocal input, in case they are unsure of how to spell it, or written input, in case they are in a public area, to support their comfort level. To avoid the idea of seeing the games as a competitive experience, aiming to beat a record, the user does not have access to the number of correct responses they gave and will simply be informed of the success of having a new connection to meet with their like results.

Cooperate Games embody the app's group chat-building experience through the collaboration of completing a task in a group activity. In this category, a user enters a game room and is prompted to wait briefly for the app to group them with four other users that are playing the same game while giving them the ability to see the users' names and profile pictures. Once inside the room, users will be on a virtual call that runs throughout the duration of the game. Simultaneously, Octil, displayed as the default male variant, will narrate a story and a prompt for users to follow while directing them to the game itself. Users are then guided to complete teamwork challenges in the twenty-minute duration of the games. When the final task is fulfilled, the users are placed into a group chat and the unique process of their friendship point system begins. The experience of completing a minigame challenge in a synchronous space takes inspiration from the energy of a Discord call, where friends engage to have an opportunity to elevate their online friendships to personal levels [“Talk to People on the Telephone,” by Amanda Mull].

OctoGames are entertaining experiences intended to encourage users to challenge their respective skills to their best abilities to attain the most suitable friend for them. Setting a barrier between OctoGames and competitive games liberates users from the pressure of opening the OctoGames page for the purpose of improving their skills in the games, thereby creating a healthier gaming experience [“The Health Effects of Too Much Gaming,” by Peter Grinspoon, MD]. Furthermore, users are unable to view factors that measure their performance in each game such as the time taken to complete a task, the correctness of their abilities to identify a set of samples, or the comparison of their performance with other users to avoid building a competitive environment. In its essence, OctoGames are games that motivate users to test their unique mindsets and memories to find their own communities scattered across the globe.

After completing a minigame, the octopus guides the user back to the chat page, where they are presented with a new chat with the user that they were paired with on the game. They are encouraged to open the conversation and welcomed to a layout of the chat space with a glowing button at the bottom right corner labeled “INTRODUCTION GAME,” indicating to both users the next recommended course of action. Clicking this button will bring the octopus back to host a game with both users where they are given a set of 100 questions and they must answer 10 to win. These questions are extracted from everyday conversations exchanged among friends to learn about one another by studying mainstream trivia quizzes. Once the game is completed, the users are awarded their first friendship points and have both concluded the introductory tutorial. When the user exits the chat, they will be studied on how much they enjoyed the first conversation by giving a rating from one to five stars calibrating whether or not they will continue speaking with the user. Depending on the answer, the octopus will keep the new friends on the users chat pages or delete them and encourage the user to play another minigame.

Humanity’s devotion to mobile applications maximizing use time for individual users to escape from the real world, OctoLink works against this mindset to decrease rates of social isolation and loneliness [“Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories,” by Christian Montag]. Loneliness is the guiding factor towards a consumer’s prolonged interaction with an app by stimulating the warmth or satisfaction to substitute the lack of human communication the user has in their personal life, a phenomenon called Attachment Theory [“Rise of ‘Lonely’ Consumers in the Post-COVID-19 Era: A Synthesised Review on Psychological, Commercial and Social Implications,” by Xueqin Wing]. The app is created to

give users a space of belonging by building a personal connection with others from the first visit. When a user is registered as an official member, they have access to interact with an animated octopus that provides a tutorial on the app's features and the experience of finding a member. The octopus remains accessible through the presence of an octopus icon that offers assistance by appearing when a button with an octopus icon is clicked on the text page for necessary assistance. Such cases would include the user needing help in using the app if they forgot the process or needing comfort if the user was verbally attacked in a conversation.

Users can report poor communication of another user will be done through machine learning, digitally studying the degree of negativity displayed by the other user as the octopus appears below the screen to tell the user to leave the conversation and consider blocking the abuser. Giving voluntary assistance to the user reassures them that they are not being attacked without a witness thereby further building a trusting relationship between the user and the app. OctoLink breaks the barriers of online escapism and communications between individuals in one's surroundings to liberate users out of the rabbit hole that loneliness pulls them into ["Rise of 'Lonely' Consumers in the Post-COVID-19 Era: A Synthesised Review on Psychological, Commercial and Social Implications," by Xueqin Wing].

The octopus is a customizable mascot individualized for each user, named Octil. When the user chooses their gender, Octil mimics their decision by a basic distinction in eyelash size: the male octopus has no eyelashes while the female octopus does. After first meeting Octil, the user meets their first friend. Octil's relationship with the user is fortified by its commitment to encouraging the introduction quiz to offer a sense of support to help break the user out of their shell. Human beings have the natural urge to seek comfort through a relationship, but lack the confidence to do so, Octil is the extroverted friend that compliments a lonely individual's poor

communication skills to empower their abilities to meet new people [“A Survey of Addictive Software Design,” by Chauncey J. Neyman]. Octil acts as an embodiment of a substitute for loneliness thus satisfying the human attachment to anthropomorphism: the tendency for humans to give human-like features to inhuman agents “Rise of ‘Lonely’ Consumers in the Post-COVID-19 Era: A Synthesised Review on Psychological, Commercial and Social Implications,” by Xueqin Wing].

OctoLink has two point systems that are unique for each user and their respective friendships. The individual point system is the user’s metric to study their use of the app, tracking their ability to control prolonged use of their account daily and progress on their friendship experience. To achieve the most significant increase in points offered each day, the user must use the app for a duration of 15 to 60 minutes only. Other rewards involve the number of friendships the user builds for each category of games and the quantity of high-status friendships they achieve. The second point system is given for each friendship that starts by playing a minigame between two or more users. This metric helps users recognize how strong their friendship status developed as they advance from ranks of being Egg, to Larvae, to Juvenile, to Adult, reflecting the life stages of an octopus. The points accumulate from further communication between the users each day and the kind of method they interact between text-based or face-to-face interaction.

Text-based communication offers the least reward points while face-to-face communication, from the app’s call feature, offers more points. To encourage the practice of using the calling feature, OctoLink will start notifying users to call after seven days of text-based communication. After 14 days of call-based communications, they will be encouraged to turn their cameras on and bring their personal relationship to a higher level [“Rise of ‘Lonely’



Consumers in the Post-COVID-19 Era: A Synthesised Review on Psychological, Commercial and Social Implications,” by Xueqin Wing]. When enough points accumulate to reach the rank of Juvenile, users will be given a certificate with a group photo of the users in their friendship that they have the choice to share on their social media accounts thereby encouraging their networks to download the app. The group photo is taken automatically by the app during the first call that all the users in the chat get on.

The Adult status offers users the opportunity to order plush figures of the octopus mascot with their friend’s name stitched on it or multiple miniature octopuses that are holding hands, each one having a friend’s name stitched on it. The figures are purchased on the OctoLink website, where users enter a code to receive their special offer. There can be up to twenty octopuses from a maximum of twenty members for a group chat. Limiting the size of a friend group supports users from losing the sincerity and longevity of the friendship. The plushies offer the users a physical representation of their friend, which symbolizes their connection with the user they represent, solidifies the ranking of their friendship, and grants a common object to serve as a symbol of their connectivity regardless of the distance they are from each other.

Gamification, the integration of gaming elements such as points or account ranking, is incorporated by mainstream mobile apps in forms to motivate a user’s effort to build their status in their account thereby reeling them into longer visits [“A Survey on Addictive Software Design,” by Chauncey J. Neyman]. For instance, the mobile and web app Reddit has a point system that showcases a cumulation of the user’s points, deemed Karma, acquired from every individual post and comment made in the app. In doing so, their Karma count is the driving factor to keep users engaged in the routine of consuming the new media offered on the app for a

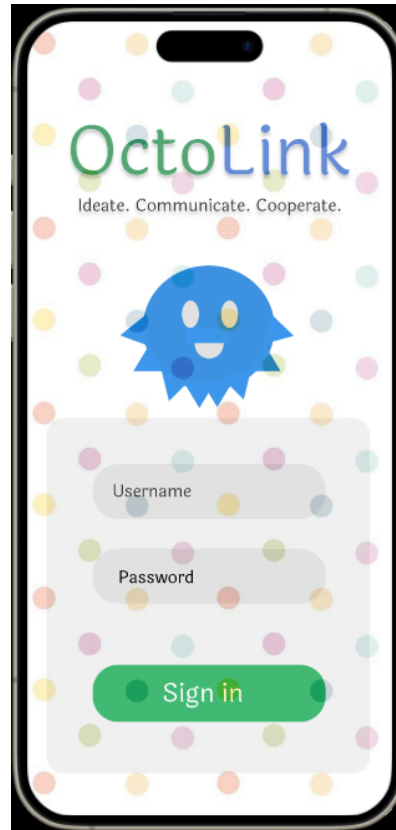
chance to get a stellar count on their account, under the illusion that they are achieving a reward of value.

OctoLink takes the norm of gamification to structure the development of user's habits honing their communication skills and decreasing their daily smartphone use. The introduction quiz uses gamification to segway into the friendship between the users. Integrating gamification into the foundation of the friendship, users are stimulated to progress into their friendship statuses with the aim of achieving the grand rewards as a team. To keep their progress steady as they accumulate points, users will be reminded weekly to maintain their relationship with a note to continue accumulating points and win grand prizes. As the users have the autonomy to get help from Octil, they feel reassured before participating in the interaction that initiates their gamified experience.

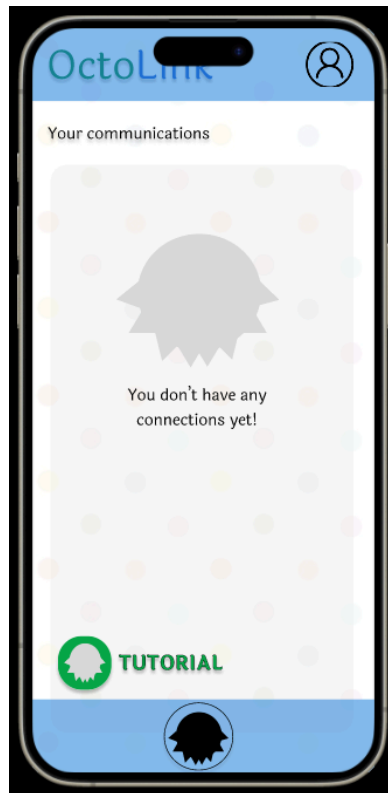
### **User Interface Description**

An illustration of the landing page is seen below; illustrations are made on the Figma designing platform and do not function when interacted by the user. The user views a vertical container featuring its contents in a descending order starting with the brand of the app, the slogan, the octopus mascot, and then the option to sign in or create an account. The orientation of the page is made with the influence of standard login pages from mainstream mobile apps such as Spotify and Instagram. The background theme of polka dots emphasizes the entertainment aspect of the app as the variety of colors and the circles are qualities for modern-day connotations of joy that ensure an audience they are entering a leisurely activity. The octopus presented is the standard version every user sees when first starting the app prior to customization.

**Figure 1:** *Landing page*



Once the application acknowledges a new user's credentials, the user proceeds to the Text Page. Through this page, the user is welcomed with a blank overlay complemented with a note that the user has no connections followed by a smiling image of the octopus mascot. A navigation bar is displayed on the bottom of the screen with one button that has a silhouette of the octopus mascot. Below on the bottom left corner shows a glowing green button labeled "TUTORIAL" that outshines other features on the page. When clicking the green button, the animated octopus figure will appear as a sentient character for the user to listen to and the tutorial portion of the app commences. The page is completed with the same background of polka dots from the landing page, but with less opacity to avoid interference with other features on the page. Labeling the button that initiates the tutorial in bright green, induces an emotion of immediacy and excitement in the user to clarify that the button is the logical course of action to take while offering the user liberty to navigate other features of the app.

**Figure 2:** *Default Text Page*

As the tutorial proceeds, the user is encouraged to click the button on the navigation bar, directing them to the “OctoGames” page. By clicking that button, they are presented with an illustration of the OctoGames available in an octopus-like figure. The Ideate Games are represented in pink, the Communicate Games are green, and the Cooperate Games are yellow. The polka dotted background will be animated with dots to move diagonally as the page stays active as motion builds an energetic atmosphere that encourages the user’s interest in playing a game. If the user chooses to act independently from the app by quitting the tutorial, they have the option to click the button on the bottom left corner labeled “EXIT TUTORIAL” for their convenience.

**Figure 3:** *OctoGames Page*



Upon clicking a minigame of their choosing, users see a brief description of the game complemented by a demonstration of the game's experience. When the user plays a game, the app will return to the Text Page and be presented with a connection on their menu of users to chat with. The green color in the image represents the game category that they were introduced from, which in this case is Communicate. New connections will be marked with a "NEW" tag to help the user identify which user they have yet to talk to on their page and will be removed when they send one text to the user. The tutorial ends when the user reaches this mark and the location of the button turns to blue. When clicked, Octil appears to ask if the user needs assistance and will respond with playful movements the user makes such as clicking it and dragging their finger across the screen. When the user feels satisfied, they can click the blue button again and the octopus will leave in a swimming motion.

**Figure 4:** *First Connection Experience*



When more connections are made, the messaging page renders a more sophisticated layout by giving the user the freedom to customize the experience of scrolling through their list of communications among their friends. Two prospective layouts are suggested: one to filter the conversations by categories of games in which the friends met and one to scroll through the connections by recency in a navigation bar on the top of the page. With the ability to filter out the types of connections by category, users will be better able to decide what type of friend they feel most comfortable communicating with during their visit to the app and have a firm estimate of the ratio of friends the user has in the three categories. Having this knowledge will allow them to internalize which category they resonate with the most and which one they can work towards making more friends from.

**Figure 5:** *Layout of the Text Page Suggestion 1*



The navigation bar layout allows for a simpler and more visually pleasing way to scroll through friends. It takes inspiration from Discord's mobile app layout feature of having the ability to scroll through friends on a vertical scroll on the left side of the screen. Reorienting the basic layout into a horizontal variation will garner excitement from the users to try a new perspective on messaging apps and satisfy their curiosity in addition to enhancing the app's unique experience.

**Figure 6:** *Layout of the Text Page Suggestion 2*

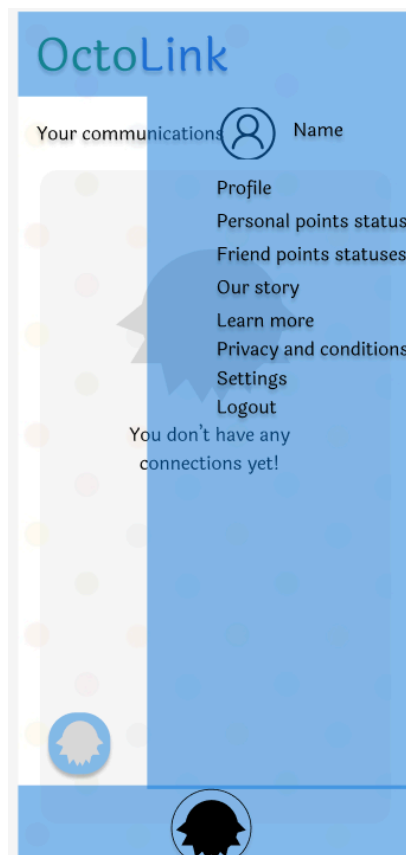


Located in the top right corner lies the user's profile picture in a circular layout, acting as their entry to the personalized properties and external resources the app has to offer. When clicking the icon, a dropdown layout will appear in a swiping motion over the right half of the screen showcasing a list of features to choose from: "Profile" allows users to view their profile page from a lay person perspective while also giving them liberty to make edits; "Personal Point Status" shows the user their progress on their singular, individual point system; "Friends' Point Statuses" shows the user their progress on their shared point systems with each of their friends and friend groups; "Our Story" directs the user to a page that features the app's backstory that they can scroll through for their leisure; "Learn More" brings the user to page of external resources that discuss the latest information published on the interdisciplinary and revolutionary areas the app encapsulates; "Privacy and conditions" allows users to access their personal data and understand the storage they give the app from their devices after each transaction; "Settings"



carries the personalized features the user has control over to change their experience of the app and delete their account; “Logout” is the user’s option to logout of their account, which returns them to the landing page.

**Figure 7:** *Dropdown Menu of Personalized Options*



OctoLink takes inspiration from modern-day messaging apps to create its own interpretation of a messaging app experience by using its features in new ways. The areas that connote mainstream aspects of mobile apps, such as a virtual tutorial, a texting page, and an option to customize communications, each play parts in the collective impact the app will have on its users. With these ideas comes the opportunity to redefine the expectations of a standard messaging app, allowing users more control over the experience into a healthier and independent journey to avoid the tentacles of smartphone addiction.

## **Business Plan**

The process of transforming OctoLink from an idea to a business is a sequence of steps, beginning with educational pursuits and transitioning to an entrepreneurial commitment. Laboratory studies in Human-Computer Interaction (HCI) play a pivotal role in the psychological grounding and development of the application through a master's degree program that offers a foundation for the cognitive applications of technology. This opportunity will construct a basis of understanding the relationship between the user and their mobile device to achieve complete insight into the software designer's viewpoint. Prototype creation determines the physicality of the application by running experiments that provide external perspectives and therefore more opportunity to maximize the effects of the prospective user experience. Once the application is developed, collaboration with industry mentors and practitioners will drive the roadmap for the business process and organize a feasible time frame to bring the application to market.

With the research foundation completed, the following course of action is to build the founding team. Getting collaborators aligned with the passion for the project together to fulfill the roadmap will allow the team to launch the application. The team will be composed of the first eight primary roles in a new business: a chief executive officer, a chief operations officer, a chief technology officer with a vice president of engineering, a chief marketing officer with a community manager, a sales manager, a chief financial officer, a business development manager, and a customer service representative [“How to Hire for Your Business: The First 8 People You Should Hire,” by Skye Shooley]. Once a comfortable measure of readiness and integrity is established with this team, OctoLink will be submitted to the Y Combinator program, a prestigious startup development opportunity that offers personal access to expert mentors to help

a team create a startup and solidify cooperation with investors. Under this supervision, the training wheels of the application are set becoming ready for further opportunities. In the case that the Y Combinator application gets declined, the alternative is to have the financial sector secure a network by finding investors in health and clinical departments of local sites and advocate groups to begin creating a budget. This circle expands by connecting with health groups in broader locations as they are the skeleton of the business to keep its stability intact until partnerships are made with more substantial businesses. The story will not end.

To monetize OctoLink, plans will be offered depending on the data usage of the individual user in a manner respectful to their privacy. Their performance is studied on the chat features to measure the number of friends each user has. Other areas of income are received from investors and company partners that help the application on its journey to make a global impact. Merchandise will be a revenue stream as well through the incoming OctoLink website which features a product line where users have an array of merchandise to purchase with the theme of the application, like the octopus plushies that users earn access to purchase for their friendships in the Adult status.

After refining the application's function, the proposal for OctoLink gets submitted for publication, complemented by a working prototype to begin the business. The following three months will be committed to the Y Combinator program, developing the fundamentals of a startup under the mentorship of world-famous entrepreneurs. The money raised from investors in this experience allows the autonomy to decide on the first location of the business's headquarters to have a basis to build its brand. Once enough employees manage the marketing, sales, technical, and recruiting branches, the next two years are committed to marketing OctoLink and standing out in the application industry. OctoLink's brand continues to grow in the United States

by building more offices in the first five years of launch. The application then gets published to all domains in the next ten years thereby solidifying the global impact that are brought to the messaging application industry.

### **Conclusion**

The conversation on finding the best direction to control human life's growing dependency on mobile applications is an open book awaiting completion. As human beings continue to involuntarily commit increasingly over extended periods of screentime to their devices, questions on the ethical fate that lies ahead for civilization are at an all-time demand for attention. What needs to be discussed is the essence of theory: where will mobile app industries go next in taking human psychology to go further down the spiral of smartphone addiction and until how long will humanity need to realize they are in a trap?; who will be the daredevil to make the global impact that reshapes the modern-day perception of social media being a safe haven and create a new foundation of the mobile app industry?; how long will it last for smartphone consumers to continue depending on their devices before globally significant rates of brain rot ensue?; while mobile apps continue to achieve new levels of human manipulation for all ages, what lies ahead for future generations that are spending adolescence under the exposure of addictive products and how will this restructure their brain development and capacity to socialize?; with the challenges given to human morals, thorough dives in cognitive studies and its relation with mobile application development are of an all-time importance.

Absolute liberation from smartphones is impossible: the integration of social media into the structure of modern-day life has been drilled until the point of irreversibility. Regardless, social media's infrastructure is flexible with a variety of chances to reshape the experience into a completely different entity. It is the chance for reconstruction that motivates the journey to

discover a solution that will upgrade social media from a deprivation to a shining light of willingness and excitement to globally influence a rise in social connectivity. OctoLink is the panacea; it will create the eternal change required for a mobile industrial reversion to come to fruition. Its integration into the public spectrum will inspire a significant change in interest to socialize and free users from the chains of loneliness and isolation. Fixing the smartphone influence on human psychology does not require the initiation of a new era of technological advancement, but a passion to make a difference in current stances of mobile applications. The only obstacle stopping the change is the lack of commitment to start it. The future is now.

## References

1. Advanced Publications (2005). *Reddit* (2024.17.0). <https://www.reddit.com/>.
2. Bainbridge, C (2021). Introverted Social Needs and Preferences. Retrieved on February 22, 2021,  
from  
<https://www.verywellfamily.com/all-about-introverts-1449354#:~:text=It%20can%20be%20difficult%20for%20introverts%20to%20make,may%20know%20many%20people%20and%20have%20many%20acquaintances.>
3. Cristol, H (2023). What is Dopamine? Retrieved on July 19, 2023, from  
<https://www.webmd.com/mental-health/what-is-dopamine.>
4. Grinspoon, P (2020). The health effects of too much gaming. Retrieved on December 22, 2020,  
from  
<https://www.health.harvard.edu/blog/the-health-effects-of-too-much-gaming-2020122221645.>
5. Hammer & Chisel (2015). *Discord* (227.0). <https://discord.com/>.
6. Li, T (2021). The Impact of Covid-19 on Smartphone Usage. Retrieved on April 16, 2021,  
from  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8864954/>.
7. Luchetti, M (2020). The Trajectory of Loneliness in Response to COVID-19. Retrieved on June  
2020, from [pubmed.ncbi.nlm.nih.gov/32567879/](https://pubmed.ncbi.nlm.nih.gov/32567879/).
8. McGonagal, K (2013). *Title of Work: The Willpower Instinct: How Self-Control Works, Why it Matters, and What You Can Do to Get More of It*. Penguin Random House.

9. Meta (2010). *Instagram* (329.0.0). <https://www.instagram.com/>.
10. Meta (2009). *WhatsApp* (2.24.10.3). <https://web.whatsapp.com/>.
11. Montag, C (2019). Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories. Retrieved on July 23, 2019, from <https://www.mdpi.com/1660-4601/16/14/2612>.
12. Mull, A (2019). Talk to People on the Telephone. Retrieved on September 16, 2019, from <https://www.theatlantic.com/health/archive/2019/09/ring-ring-ring/598129/>.
13. Neyman, C.J (2017). A Survey of Addictive Software Design. Retrieved June 28, 2017, from <https://digitalcommons.calpoly.edu/cscsp/111/>.
14. Reviewed by Estevez, E (2024). What is a Smartphone? A Mobile Phone and Computer in One Device. Retrieved on March 1, 2024, from <https://www.investopedia.com/terms/s/smartphone.asp>.
15. Schooley, S (2023). How to Hire for Your Business: The First 8 People You Should Hire. Retrieved on October 26, 2023, from <https://www.businessnewsdaily.com/15186-first-startup-hires.html>.
16. Spotify Technology S.A. (2006). *Spotify* (8.9.34.590). <https://open.spotify.com/>.
17. Wang, X (2021). Rise of ‘Lonely’ Consumers in the Post-COVID-19 Era: A Synthesized Review on Psychological, Commercial, and Social Implications. Retrieved on January 6, 2021, from <https://www.mdpi.com/1660-4601/18/2/404>.