

The background is a solid light blue. It features several abstract geometric elements: a large blue circle in the upper left, a smaller blue circle next to it, two blue wavy lines in the upper right, a blue square frame in the center, a blue triangle in the lower right, a small blue circle in the lower right, a blue wavy line in the lower left, and a vertical blue line in the lower left. The title 'Tamagochi Doctor' is centered within the blue square frame. 'Tamagochi' is in white, and 'Doctor' is in a larger white font. Below the title, the text 'Emma Piefke's Major Design Project' is written in a smaller blue font.

Tamagochi Doctor

Emma Piefke's
Major Design Project

Table of Content.

01.

Project proposal and management

Identification and exploration of the need	4
Areas of Investigation.....	6
Criteria to Evaluate Success.....	8
Action, Time and Finance Plan.....	9

03.

Evaluation

Recording and application of evaluation.....	24
Analysis and evaluation of aspects of design.....	25
Final evaluation.....	27
Relationship of the final product to the project proposal.....	28

02.

Project development and Realisation

Evidence of creativity.....	12
Consideration of design factors.....	15
Appropriate research and experimentation.....	16
Application of conclusions.....	18
Identification and Justification of ideas and resources.....	19
Use of communication and presentation techniques.....	21
Evidence and Application of practical skills.....	22



Project Proposal and Management

Identification and Exploration of the need

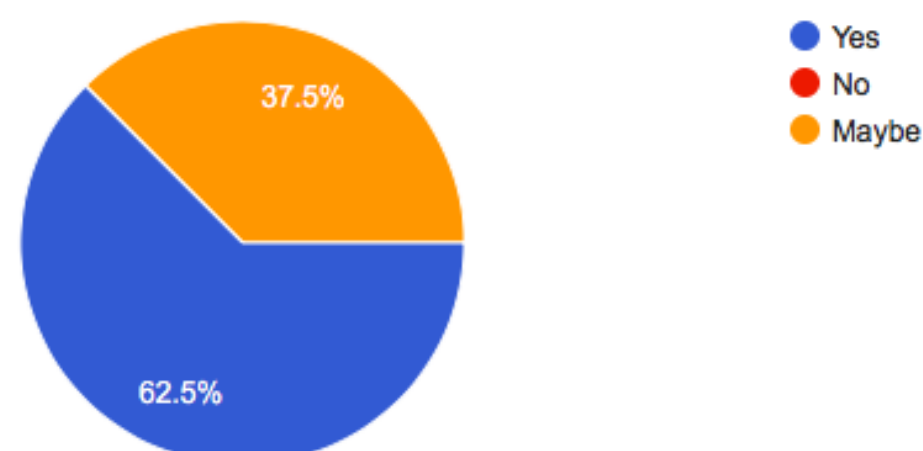
As of the past few years, mental health is becoming more popular and well known, and increasingly worse especially in teens and young adults. It is not uncommon for some people (the majority of those who feel they have no one to talk to) to project their feelings onto fictional characters and to delve into fiction to escape the depressing reality, as a coping mechanism.

My project proposal is to construct a chatbot like AI to communicate with those who wish for help. The AI interface will be a cartoon depiction of the character Emile Picani from the web series Cartoon Therapy. By selecting this character, the goal is to engage the user and well as bring comfort through a familiar character.

I proposed the idea to my followers on Tumblr, as they are my demographic because most of them know who Emile is. The results shown below show that most are willing to try it.

would you download the app should it be released?

16 responses



Identification and Exploration of the need

Anxiety will be the main mental illness the app will be targeting, as it is the most common one, with 40 million children in America and almost 1.8 million children in Australia suffering from an anxiety disorder. 19.9% of all young people have had high levels of psychological distress in the past 12 months. Due to the nature of Picani and the majority of his fans being queer, chances are that the app could bring in a large amount for LGBT members. This would make sense as 31.5% of homosexual and bisexual Australians have experienced an anxiety disorder in the past year and 19.2% experiencing an affective disorder. Unfortunately the research only refers to homosexual and bisexual member and does not cover transgender and intersex, meaning these numbers could be even higher.

This idea has derived from personal experience. When at a low point in my mental health I threw myself into fiction (especially the fan made side). It gave me an opportunity to express how I was feeling to an extent, without worrying about those around me. And I wasn't the only person who felt this way, a very common form of fanfiction falls under 'vent fics' where a creator articulates how they are feeling by projecting themselves onto the characters. Another form of fanworks that contrasts this is motivational talks, where the characters (mainly through voice acting both fanon and canonical) talk directly to the view, telling them how much they are cared for and loved, as well as other reassurances that the viewer likely needs to hear. My product will attempt to replicate this by taking Emile Picani and having him speak directly to the user to ease them into a calmer state of mind. There will also be a 'swap' function in order to swap the Picani out for another character of the series to do specific motivational speaking.

Function	The function of the product is to make people feel more comfortable talking and expressing their feelings for therapeutic reasons without needing to worry about judgement or talking face to face with people.
Quality of information	In order for the AI to perform to the best of its ability the information used for his dialogue. The advice given will be based on real advice given by therapists for maximum efficiency.
Existing Products	The closest existing product to this is an AI called The Red Queen that was made to watch the Resident Evil movies then generate a conversation with users as the persona of the Red Queen.
Athestetics	The aesthetics of the product are a heavy weight part for its efficiency. The imaging used for the product will be something similar to Emile's cutesy therapy office with Emile in the fore-front which the ability to jump between a range of emotions
Copy Right	Due to Emile not being an original character the issue of copyright is present. However after talking to the characters creator (Thomas Sanders) permission was granted to use this character

Swot Analysis

Strengths

- *A free to download application
- *Covering an important issue
- *An original product
- *Easier or more desirable to talk to a AI than a person

Weaknesses

- *No prior marketing experience
- *Limited awareness of the product
- *The products abilities will be limited due to the time restraint

Opportunities

- *Those who are aware for the character being used would feel more entice to download it
- *The video (episode 1 cartoon therapy) as of now has 1,753,172 views which many of them could be potentially downloaders
- *If more characters could be implemented to talk to then it could bring in a larger audience

Threats

- *Some people might have hesitance to seek help
- *There could be a incompatibility between different devices
- *Psychology organisations reject the product for reasons of it not being healthy or beneficial to the users.

Criteria To Evaluate Success

In order to be successful my product will need to perform in the following way:

*It needs to help calm the user down during times of overwhelming feelings

*It utilities strategies to help people with anxiety and depression

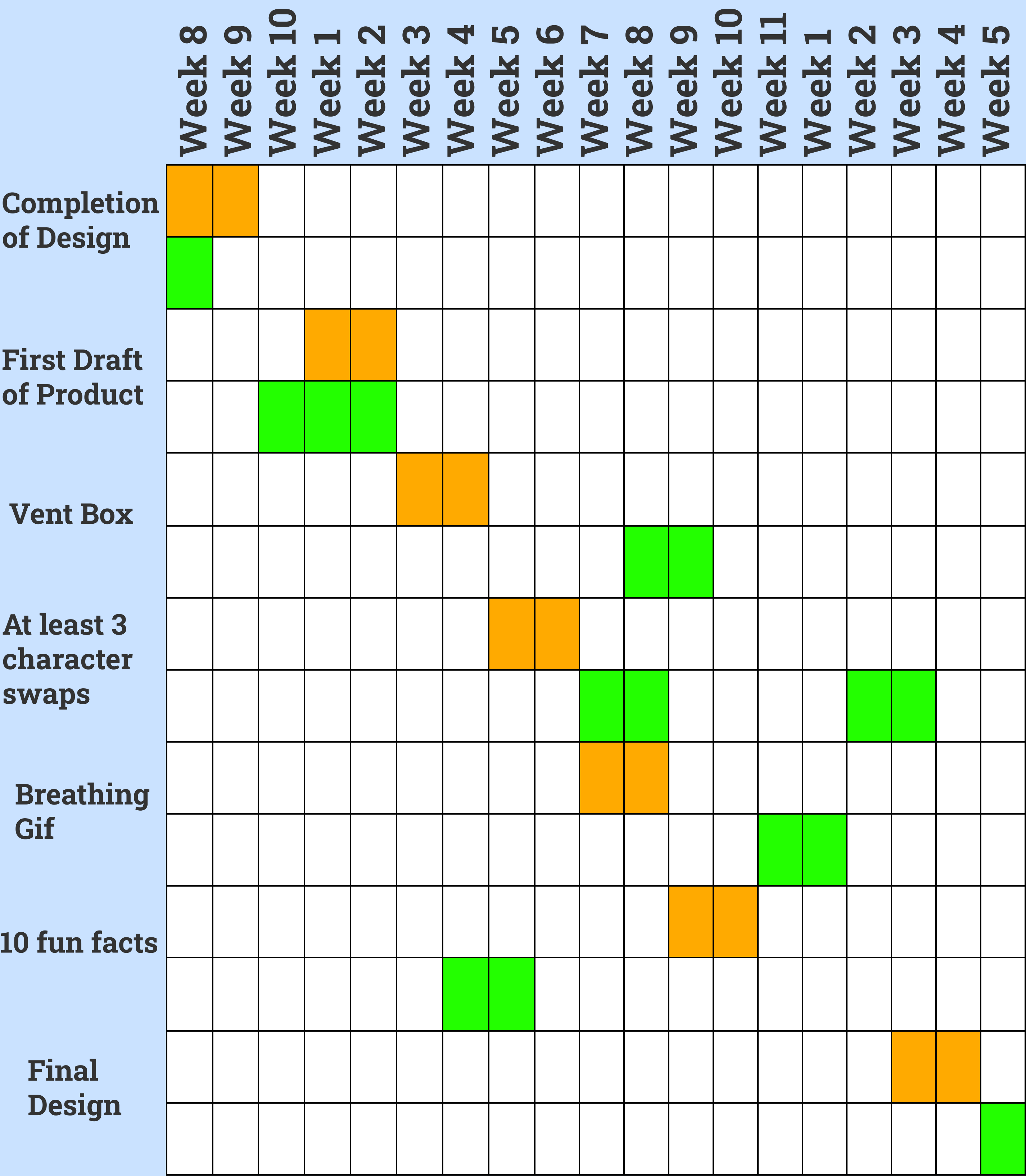
*Uses advice that has therapeutic benefits

*Can hopefully play to the characters personality by using cartoons to assist mental health

*Has a range of dialogue options

*An aesthetically pleasing colour palette

Gantt Chart



Finance Plan

The budget I will be working with:

The budget for the product would be around \$100, it will give me some leniency for purchasing should the need arise, while not emptying my personal bank account.

My proposed cost:

My proposed cost is N/A as the programming software (Unity) is free to install and any pay to use extensions would not be necessary for this product. An optional purchase would be to commission someone to draw up a range of expressions/ sprites for the interface, but as I have forgotten to do this myself the pricing for this isn't necessary.

Actual cost:

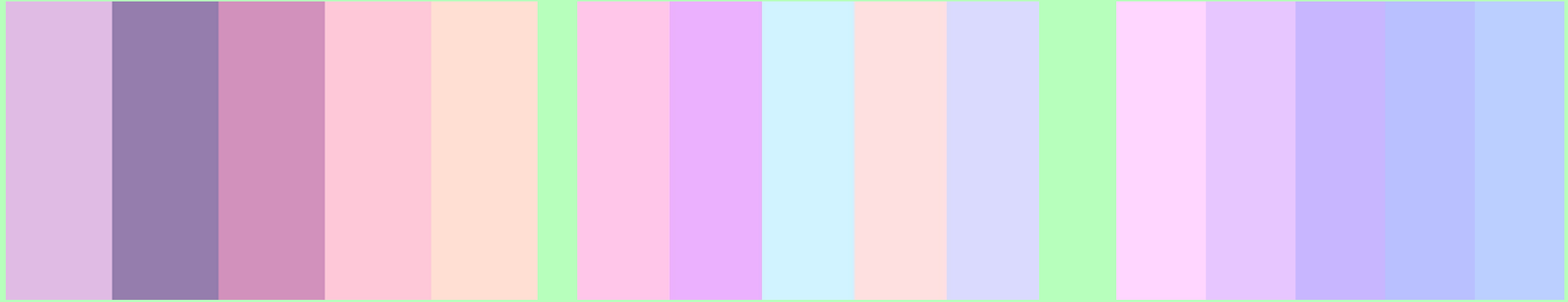
The actual cost is roughly \$250 because In order to get permission to use Picani in the program I had to pay for a meet and greet facetime with Thomas Sanders (about \$150). This is justified by the fact that without this permission I would be breaching copyright laws and would be forced to change the character which defeats the purpose of the product. As well as the costs for the developers subscription to Xcode which will allow me to publish the app should I desire to do so that come to be about \$100 for a year





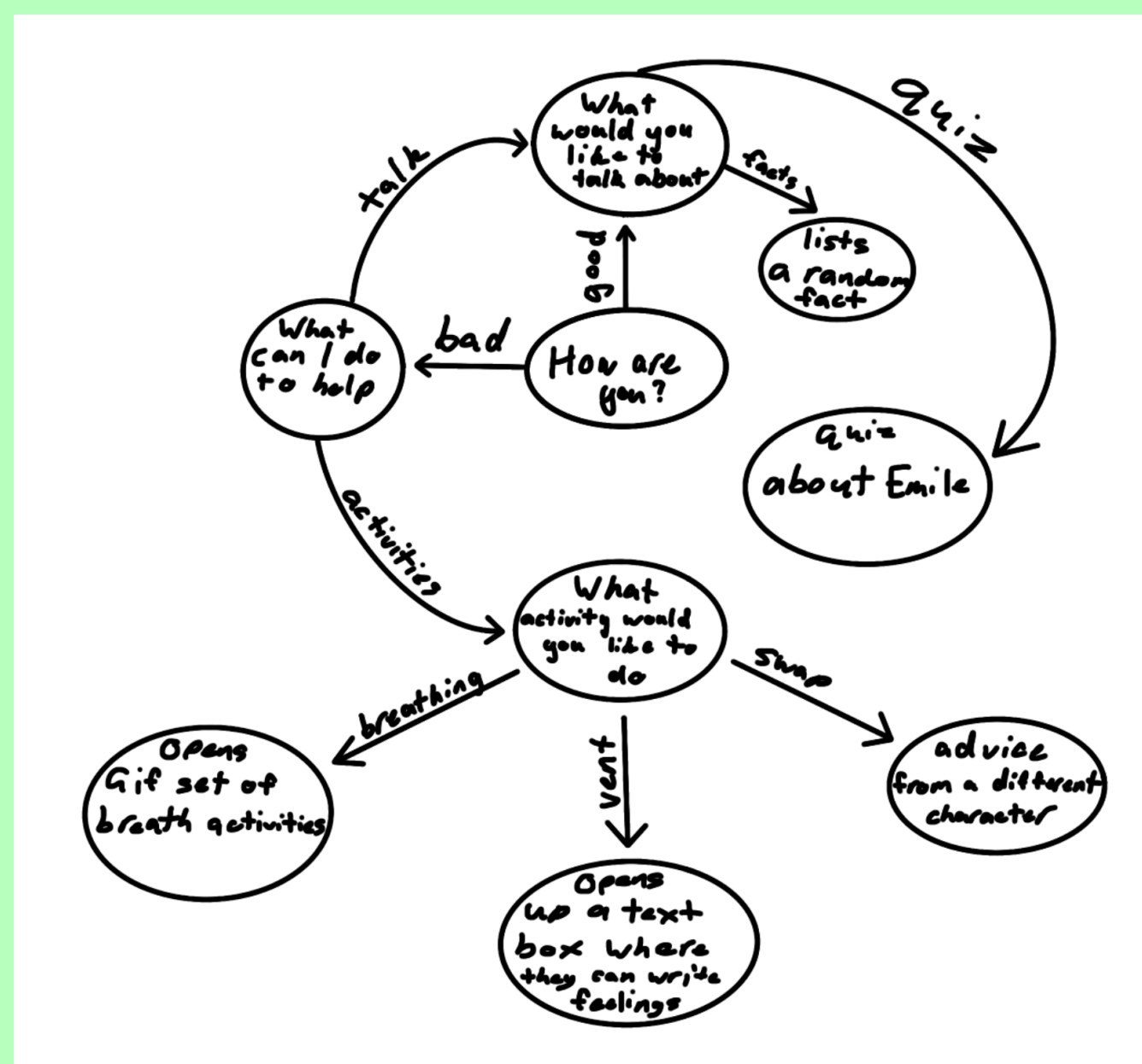
Project Development and Realisation

Potential Palettes



I'm planning on using pastel or soft colour to create a comfortable, friendly atmosphere

Original concept design of how the product will work



Illustrations and designs for characters

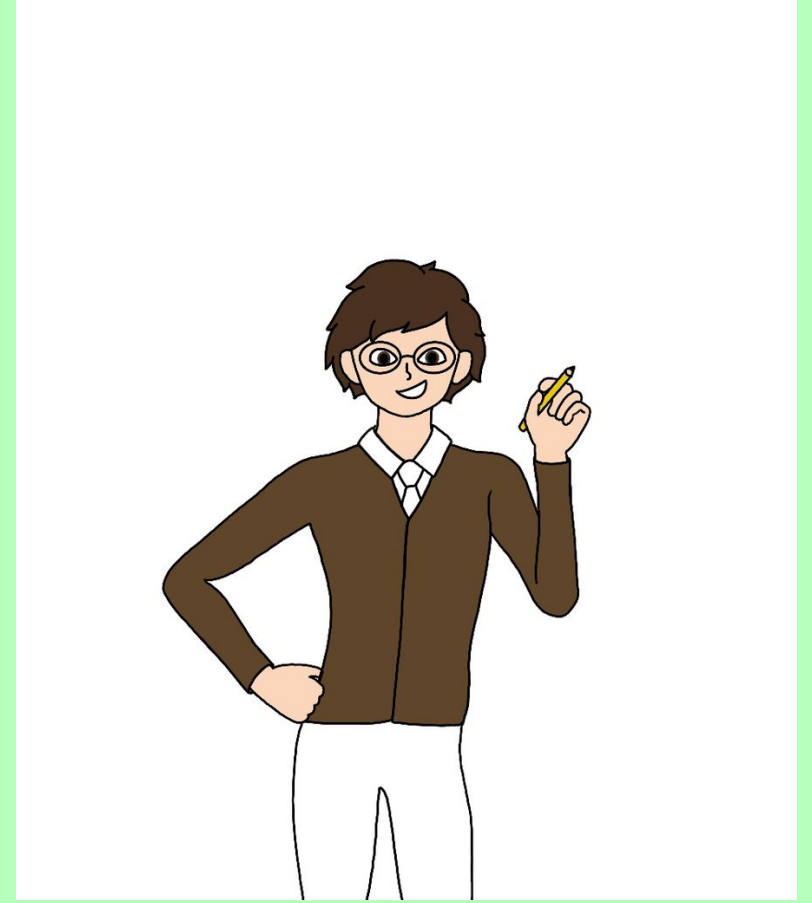


Table of the 2nd concept design

No.	Dialogue	Response	Go to
1	How are you?	Good / Bad	2 / 3
2	What would you like to talk about?	Fun Fact / Vent / Health quiz	4/ 5 / 6
3	What can I do to help?	Talk / Activities	7 / 8
4	(Insert random fact)		1
5	(Open Vent box)		1
6	What activity would you like to do?	Breathing exercises / swap character	7 / 8
7	(Play Gif / Animation of Breathing exercise)		1
8	(Opens list of Characters)	(Dialogue from each character)	1
9	(Opens up health assessment/ k10 quiz)	(Outcome bases of score)	1

Factors affecting designing and producing includes:

Appropriateness of the design solution	Appropriateness of the solution has had a significant impact on the design as I have had to rework the idea to reach an effective level in order for the result to be justifiable. This had included recreating the original premise from something akin to a therapy session to few activities that can help the person at that point in time
Needs	The needs of the user were the main priority of the app. I needed to make sure that for the product to fulfil its purpose it had to improve/ ease the mental state of that person or provide advice that can benefit them in the future.
Function	How to product will function has changed many times of the development of the product from being solely a dialogue multiple choice therapy session to activity heavy therapeutic game
Aesthetics	Aesthetics is a high priority as how it looks can be a large factor on how it is judged. I have tried to select from brighter and softer colours to trigger a psychological emotional response.
Finance	While the cost is high it has only been distributed to two areas, the permission for the characters and the subscription in the software, therefore I wouldn't have said it has had a major influence on the product.
Work health and safety	The WHS issue of privacy is the main factor that has influenced a section of the design. In the section labeled "Vent Box" the user input anything they want with the intent of them verbalising their problems. One such issue with this is that mentions of suicide shouldn't not go unnoticed and therefore a few keywords should trigger a extra line of dialogue recommending the person gets help.
Quality	Unfortunately the quality of the product isn't of the highest importance. Due to a limited amount of time and knowledge sufficient quality would be a ideal outcome
Obsolescence	This product runs the risk of becoming obsolescent quite quickly with its limited range of activities and dialogue it will soon become repetitive. This could be solved by regularly updating the product to have more dialogue/ characters, and activities.

Appropriate Research and Experimentation of; materials, tools, techniques, and testing of design solutions

What software was used?

Aim	To find a coding software best suited for the development of the application
Method	For this I have tested a range of softwares to see which is the best to work with for the project given both its ability to adhere to my idea and yet not be too complicated to use/learn
Result	I have experimented with five different softwares over the course of the product. The first was unity, which I had the second most success with but hit a rut and couldn't progress further. The second was Unreal engine, but quickly learned that it wouldn't do as it is a 3D gaming creation platform and did not match up with my plans. The other two options were to develop the product on an excel spreadsheet or through visual studios but its format was solely coding and very difficult to use. The last software was x-code which is made specifically for the development of apps and worked well with my vision.
Conclusion	The app will be made using x-code as it is most suited to the products needs and I already have a subscription to the program.



Appropriate Research and Experimentation of; materials, tools, techniques, and testing of design solutions

What hardware was used?

Aim	To determine if a windows or Mac computer is better suited for this product
Method	In order to make a judgement on which is more ideal for me I will need to test both windows and apple and decide which one this is better suited for coding on
Result	I had experimented with Unity on my laptop as it was the plan to keep the app there but after testing with visual studios it showed that that would have had to be made using a windows computer. However since it was decided that x-code was my program for choice that I would have to base my decision on that. Unfortunately my laptop was too full to take anymore programs, fortunity I was a make at home which already had X-code installed and paid for.
Conclusion	Therefore I will be using my home Mac PC to develop my product.



What coding language will the program run on?

Aim	To make a judgment on which coding method would be best for the application to be formatted with.
Method	I will decide which is the best fit through comparing different jargons, C# , swift and VBA Excel
Result	Having tried all of the above I have decided on swift as it is the language that correlates with xcode software.
Conclusion	Due to this the program will run using swift.



Application of conclusions

How research has effected the difference activities in the app.

Breathing Exercises	The breathing exercise uses the most common method of 4,4,4 technique. The visual aid helps the individual focus solely on their breath and keep it in time. Control of breathing lowers heart rate, panic, and recentrers the mind
Venting box	The venting activity helps the individual relieve stress by giving them a safe environment to open up about things that can be difficult to express to others.
Random facts	The fun facts activity's main objective is to use the therapeutic method of healthy distractions to drag the individuals thoughts away from dark places to focus on more enjoyable thought.
Colour Psychology	The majority of the screen uses pink and yellows. The subconscious effect this has is projecting feelings of sympathy, compassion, sensitivity, joy, warmth, and optimism onto the user.

Identification and justification of ideas and resources


Justification of ideas and resources used

Idea/ resource	Used for	Justification
Mac computure	The Mac was the hardware used to develop the app.	It was used because it already had xcode installed and the subscription paid for
X-code	Xcode was the programming software that was used to create the app	I had decided upon this program specifically as I had easy access to it and it is made to program apps
Procreate	The app procreate was used to made the designs of the background and characters	It was used because it already had xcode installed and the subscription paid for
Emile Picani	Emile Picani was the interface character used for mot stages of the app.	I wanted Dr. Picani to be the mascot of my app as his character fit well with the theme
Micheal Piefke	My dad assisted me in the coding of the programming.	I needed help as some of the coding due to the complexity of certain areas



Identification and justification of ideas and resources

Justification of ideas and resources used

Idea/ resource	Used for	Justification 
Breathing Exercises	The use of the breathing exercises is for the program to open up a GIF set that runs a looping video of shapes/ pattern for the user to align their breathing with	From personal experience this is an effective method in calming one down when expressing a surge of overwhelming emotion. Deep, steady breathes work to reset the brain and give a clearer mindset
Fun Facts	When clicked on the a random fact will be chosen and appear on the screen	The purpose of this is to turn the users thoughts away from negative lines of thoughts and focus on a healthier distraction
Vent form	When this is selected a text box will appear. This text box will allow the user to input anything they like.	The use of this is to give them the option to express their feelings in a way that is comfortable to them. Most troubled people won't talk about how they feel as they are worried they are bothering/ burdening those around them. The should eliminate any of those feelings as it is not a human they are talking to but a 'character'.
Character Swap	Will open a list of a range of other characters to temporarily talk to	This was the original premises of the application, and was heavily requested by those who partook in the survey. The use of more characters broadens the amount of people who desire to use the app and allows for different characters to talk about different issues.
K10 test	A questionnaire of 10 with 5 answer for each question ranging from, never to always, on how the user has felt in the past four weeks	This is a common test done by professionals to get an idea of the state of a patient's mental health

Use of communication and presentation techniques

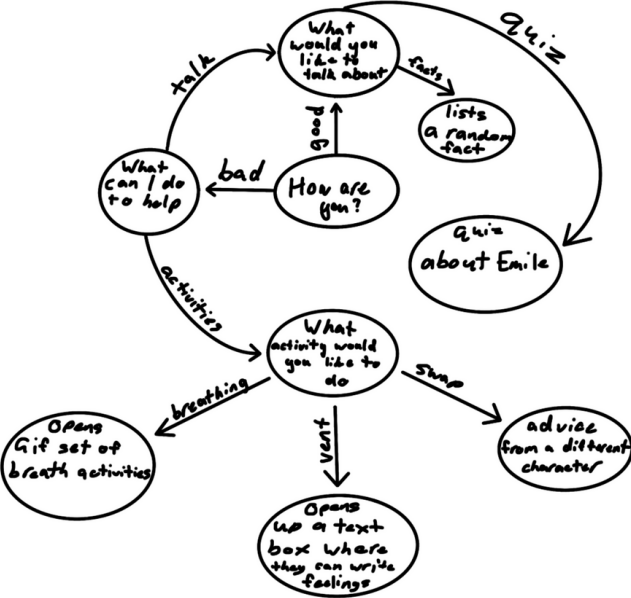
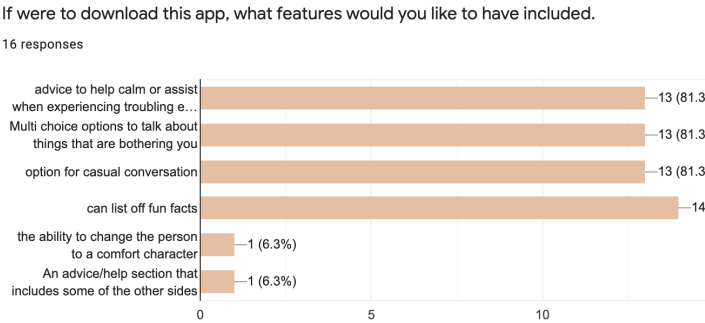


Justification of design of the portfolio

I choose for my portfolio to reflect my product by being made by predominantly bright colour in the hopes of it being more engaging.

The use of tables creates structure to keep information clear against colourful background.

Sketches and diagram are used to illustrate my ideas and vision of how the app will look and function

Evidence and application of practical skills to produce a quality project

Process	Photographic evidence	Evaluation
Flow chart		The flowchart provided me with a direction of how the logic will flow between the app features.
Identified the key target audience for app		This will provide me with an understanding of who has interest in the app as well as what features they are most interested in.
Character designs		It is important that the designs for the characters were aesthetically pleasing as it was the first time people will judge.
Xcode programming		Knowing how to code was instrumental to the development of the app without it there would be no foundation.



Evaluation

Ongoing Evaluation

I have highlighted areas where i have made and evaluation or decision by marking it with a 5 pointed yellow star



These can be found on the following pages:

Pg 10 - Time, finance and action plan

Pg16 & 17 - Appropriate Research and Experimentation

Pg 19 & 20 - identification and justification of ideas and resources

Pg 22 - Evidence and application of practical skills

Analysis and evaluation of functional and aesthetic aspects of design

Aesthetical Criteria and Evaluation

Bright colour palette

I had chosen to use the brighter colours of pinks and yellow to invoke an emotional reaction from the user of comfort, compassion, and joy. It is my opinions that it was successful in creating such a feeling in the user

Range of sprites

The range of sprites was planned for back when the app would require more dialogue and prompt boxes. While I have created 7 different sprites, Picani only has 2 to choose from. However this hasn't affected the quality of the product in such a way as for when the capabilities of the product were cut down so were the requirements for more emotive sprite.

Analysis and evaluation of functional and aesthetic aspects of design

Functional Criteria and Evaluation

Strategies to help calm down the user

The two best functioning activities for this would be the breathing exercises and the fun facts as they both function the way I had planned. However for a therapeutic app to only contain two well functioning activities presents poorly on it. Alternatively it isn't that the other functions are working just that something like the vent box appears clunky and stands out from the background.

Range of dialogue options

Similar to the range of sprites, this was planned for when the app was going to be much larger. This amount of dialogue changes for two reasons, it wasn't necessary for it to require so many prompts and because certain activities were cut or replaced in the product.

Final evaluation with respect to the project's impact on the individual, society and the environment

Positive Impact on individual

- *Could calm people down during excessive moments of panic/ anxiety
- *Make the user feels better/ lighten their mood
- *Give the user an outlet to express their feelings without judgement or consequences

Negative impact of individual

- *Areas of the product such as the fun facts or character swaps can quickly become obsolescent unless regularly updated
- *User could be disappointed or underwhelmed by the product

Positive impact on environment

- *The product is an app and therefore doesn't require any material other than a phone.
- *Won't have any physical waste at the end of its lifecycle

Negative impact on environment

- *Because it is on a phone it will use up battery life and therefore will need to be recharged to be used.

Positive impact on society

- *Could create an improvement in mental health
- *Bring awareness to the common place of affective disorders
- *Permission from different fandoms giving permission to use there character, expanding the capabilities of the app
- *Free to use so accessible to many

Negative impact on society

- *Could be seen as ineffective at improving mental health
- *Potential for copyright issues
- *Only functions on iPhone

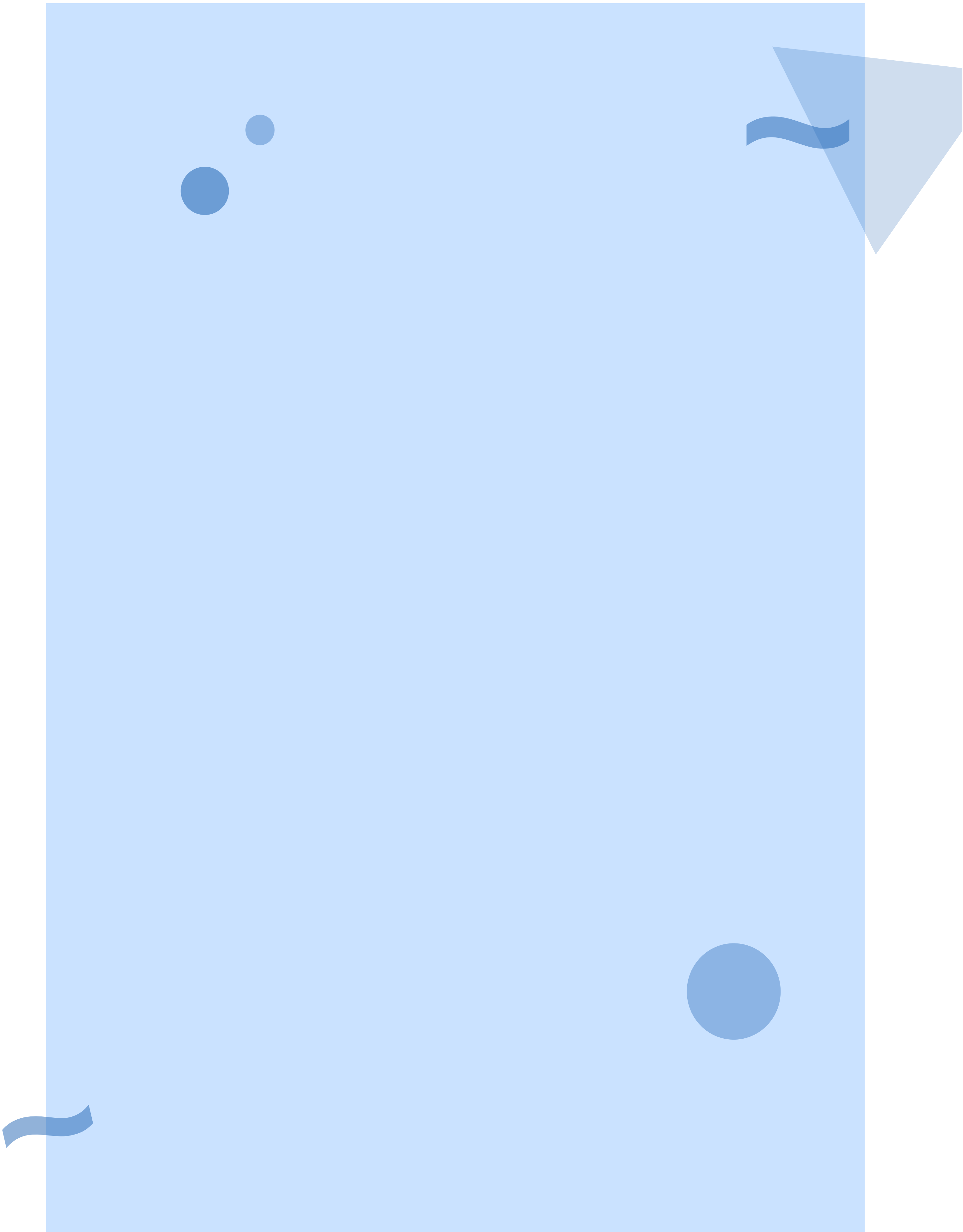
Relationship of the final product, system or environment to the project proposal

My original project proposal was to construct an app where the user can communicate with a depiction of the character Dr Emile Picani. The goal was that the user could converse with the character through a variety of multiple-choice buttons. The priority was to assist the mental health of the individual by using a variety of activities.

In the end, the product had fulfilled most of my proposal. It has multiple activities that have shown to have psychological benefits, as well as an aesthetically pleasing design, including a range of sprites.

The product has much room for improvement, such as more activities and dialogue lines like the k10 health test, character knowledge quizzes and added lines for the swap and fact features. There are also some bugs to be worked out with issues with the disappearance of buttons.

While the product might not have reached full capabilities for a prototype it has potential. Should it be worked upon more in the future I personally think that it could be a well-appreciated app for fans with low mental health.



Magdalene Catholic College 2021
Design Project