Chester Descallar

Unit 23 – Human Computer Interaction

Assignment 2

Contents

[Introduction 2](#_Toc479182488)

[Appendix 1 - flowchart for Phone App 3](#_Toc479182489)

[Appendix 2 – flowchart for Kiosk 10](#_Toc479182490)

[Appendix 3 – Storyboard for Phone App 17](#_Toc479182491)

[Smartphone Tracker Justification 24](#_Toc479182492)

[Appendix 4 – Storyboard for Kiosk 0](#_Toc479182493)

[Kiosk Justification 0](#_Toc479182494)

[Appendix 5 – Prototype for Phone App 2](#_Toc479182495)

[Appendix 6 – Prototype for Kiosk 0](#_Toc479182496)

[Appendix 7 – Functionality Testing for Phone App 8](#_Toc479182497)

[Appendix 8 – Functionality Testing for Kiosk 10](#_Toc479182498)

[Appendix 9 – User Testing for Phone App 0](#_Toc479182499)

[Appendix 10 – User testing for Kiosk 3](#_Toc479182500)

[Tracker Application Evaluation 6](#_Toc479182501)

[Gift Card Kiosk Evaluation 8](#_Toc479182502)

# Introduction

As an employee from the organisation Media Design, I was given a specification asking to create two different applications which involves specifically creating interfaces and its prototype. In this project, I also had to create screen designs and flowcharts of the interfaces and having to justify why I have chosen those designs when making the interface. I also had to consider different target audience and had to ensure that the interface was accessible to all users including those with disabilities such as visual impairments.

This is the specification that I got from the organisation:

You need to show the trainees how you design input and output HCIs. The two HCIs need to meet the following requirements

* Smartphone App
  + Input using Touch screen /output on screen
    - App allows parents to track down the location of their child
    - Parents can initialise the GPS on their child’s phone from their own phone
    - If the child goes outside a set perimeter the parent receives instant notification
    - If the child is not home by a certain time the parent receives instant notification
* Personalised Gift Card Kiosk
  + Input using keyboard / output printed and on screen
  + Select gift card type
  + Select image
  + Select amount
  + Type message
  + Chip and pin payment
  + Prints out personalised gift card

# Appendix 1 - flowchart for Phone App

Load forgot username / password page

Load register page

Load sign-in page

Forgot button clicked?

Start

Register button clicked?

Y

N

Y

N

Ask user for username

Ask user for password

Sign in button clicked?

N

Y

Correct credentials?

N

Y

Hide sign in page

Load home page

N

Icons / names clicked?

N

Y

Hide home page

Load tracking page

Back button clicked?

Y

Hide tracking page

Show home page

N

Edit button clicked?

N

Y

Add button clicked?

N

Hide tracking page

Y

Hide home page

Show add/edit page

Ask user for child’s name

Clear field clicked?

N

Clear field

Y

Ask user for phone number

Clear field clicked?

N

Clear field

Y

Ask user to add image

Show preview of image

Ask user to set home

Hide add/edit page

Ask user to set curfew time

Save button clicked?

Set home on maps

Ask user to set perimeter

Set perimeter from home

N

Y

Show home page

Mark icon as red

Send user notification

Curfew time exceeded?

Send user notification

Mark icon as red

Child out of perimeter?

Y

N

Y

N

Setting button clicked?

N

Y

Show setting page

Back button clicked?

Show home page

Y

N

Y

Account clicked?

Show account us page

N

About clicked?

Y

Show account us page

N

N

N

Y

Y

Contact us clicked?

Show account us page

Show account us page

END

Sign out

Sign out clicked

# Appendix 2 – flowchart for Kiosk

Load start-up page

Start button clicked?

Start

N

Y

Load gift card type page

Ask user for gift card type

Next button clicked?

N

Y

Hide gift card page

1

1

Show select amount page

Ask user to select amount

Next button clicked?

N

Y

N

Hide select amount page

Pay now clicked?

Show ‘Select Image’ page

N

Next button clicked?

Y

Y

2

3

3

2

Hide image page

Allow user to browse internet

Allow user to browse phone

Allow user to take image

Show select image page

Browse internet?

Y

N

Browse phone?

Y

N

Take Image?

Y

Show preview of image

3

N

5

4

5

4

Next button clicked?

Clear message box field

Ask user to type the message

Show ‘Type Message’ page

Hide select image page

N

3

Y

Clear button clicked?

Y

N

Save message clicked?

7

6

3

Y

6

Show total price

Allow user to change quantity

Show the shopping basket

Hide message page

Next button clicked?

Save the message

7

3

N

Y

Checkout button clicked?

N

Y

8

8

Show payment page

User clicked pay?

User inserted card?

Ask user for pin code

Ask user to insert card

N

Y

N

Y

9

10

10

9

Pin code correct?

N

Y

End

Print out receipt

Print out gift card

# Appendix 3 – Storyboard for Phone App

**Sign-in Page**

Media Design Child Tracker

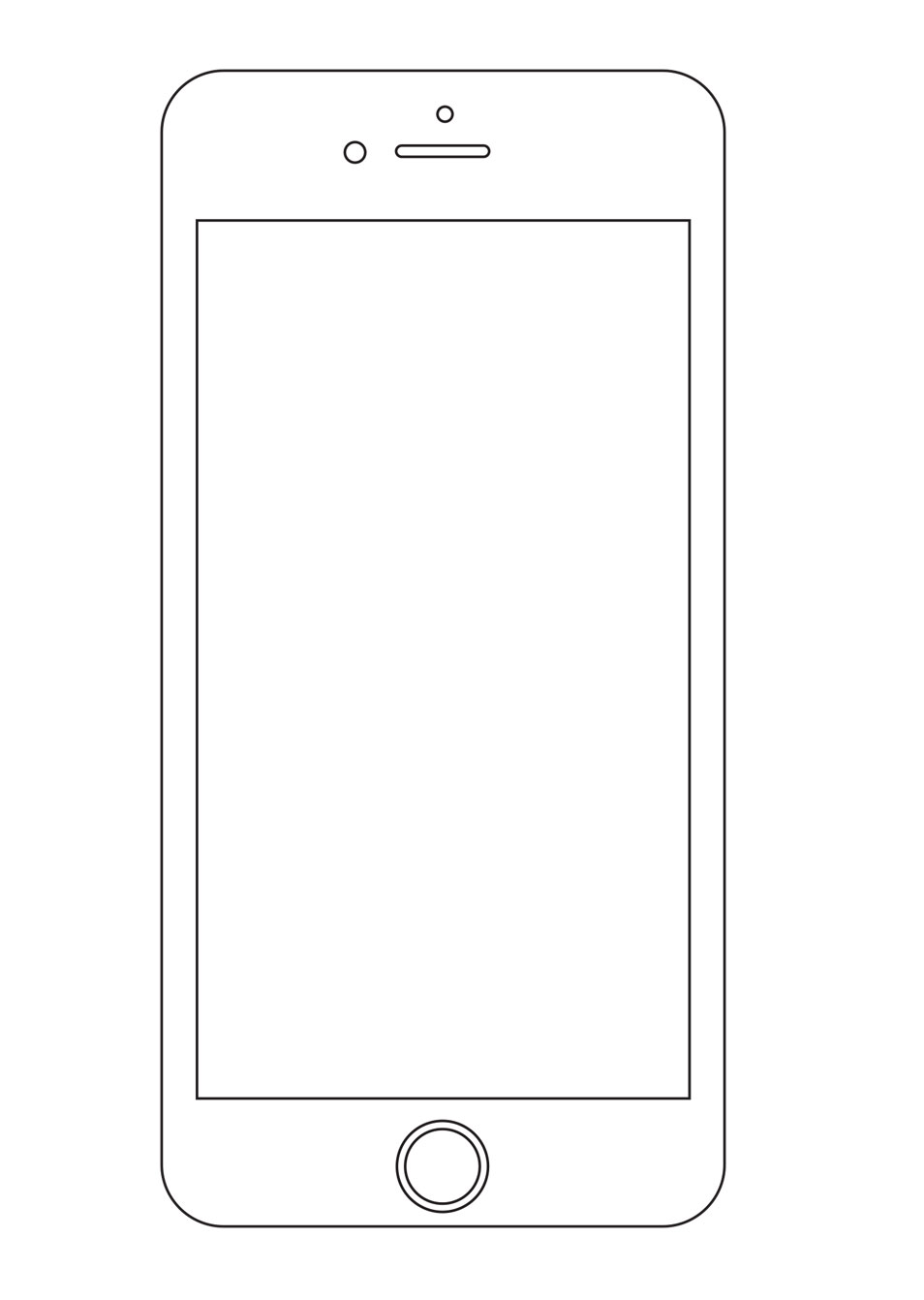
*Forgot username / password*

*Create account*

Sign In

Password:

Username:



Label - the tracker app’s name

Font size: 14, font: Verdana

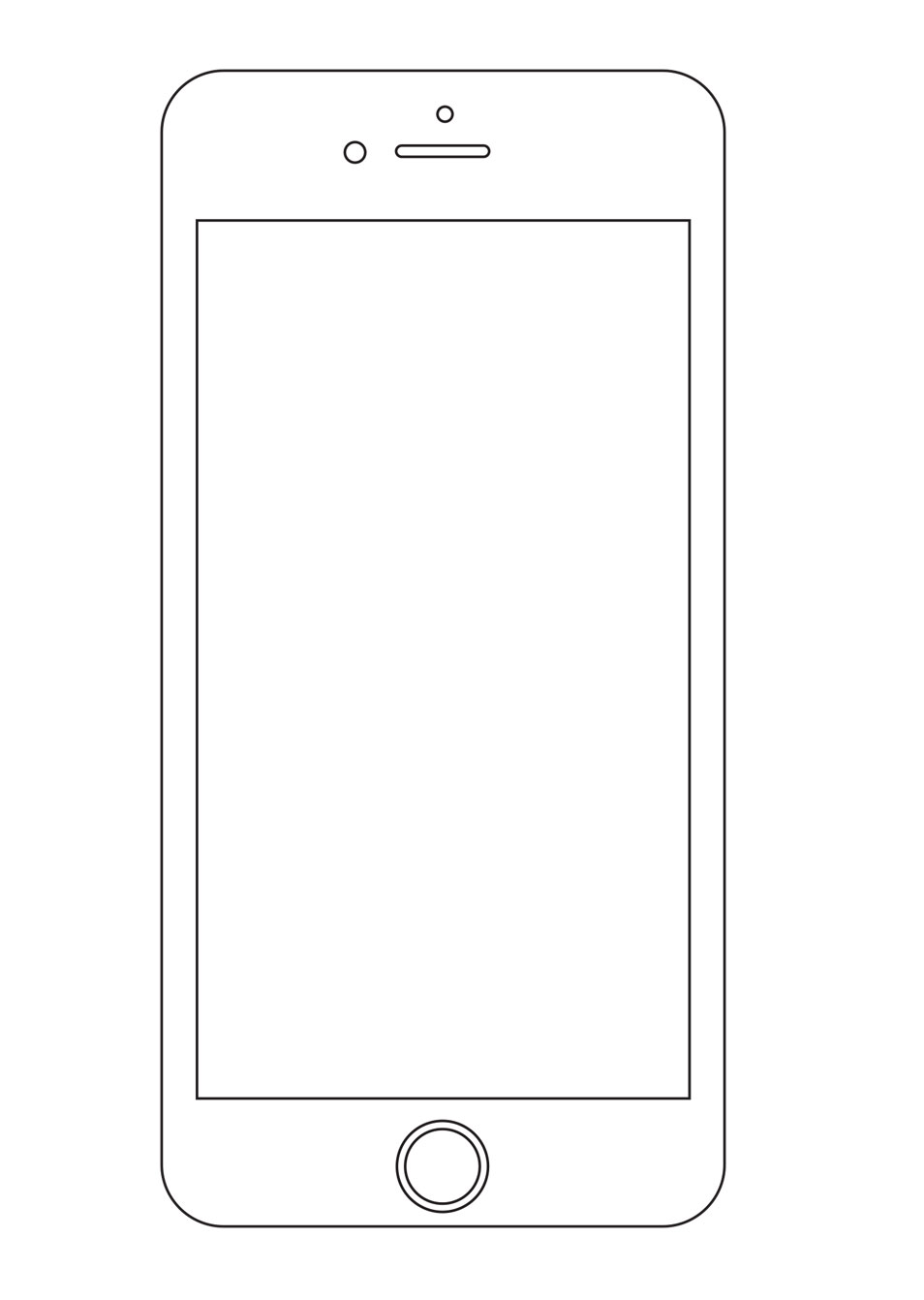
These will be textboxes where the user can input their details

For the rest of the tracker’s apps text it will be the same font type- Verdana but the font size will be 12 instead.

These are buttons that the user can click; clicking sign in sends them to the home page if their credentials are right

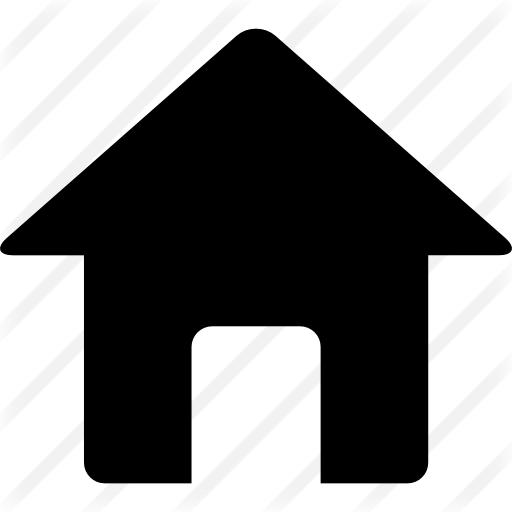
Clicking ‘create account’ sends them to the account creation page and ‘forgot username/ password’ sends them to the forgot page.

Logo that the user can easily recognise

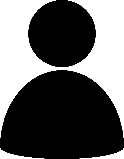
**Home Page**

This icon is an unclick able icon, its purpose is to show the user that this page is the home page.

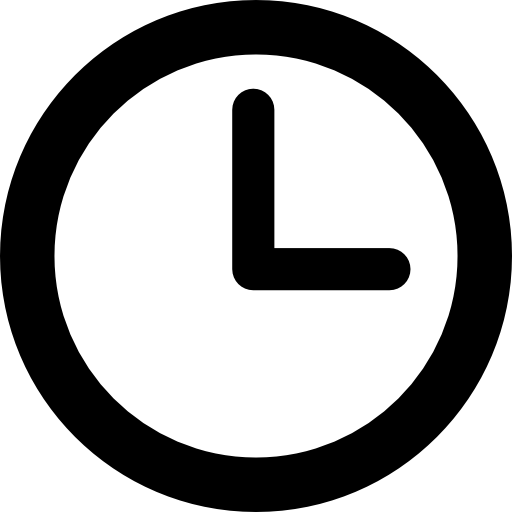
This is a setting button, that sends the user to the setting page upon click.

Image result for small setting icon

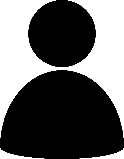
1



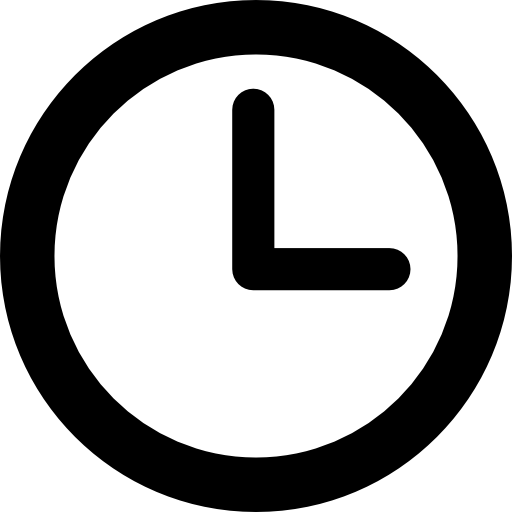
Reegen



Since it is a mobile app, only two children will be shown at the screen, however it should allow the user to scroll down to see more child if they have more than one child.

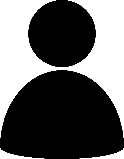


Michael

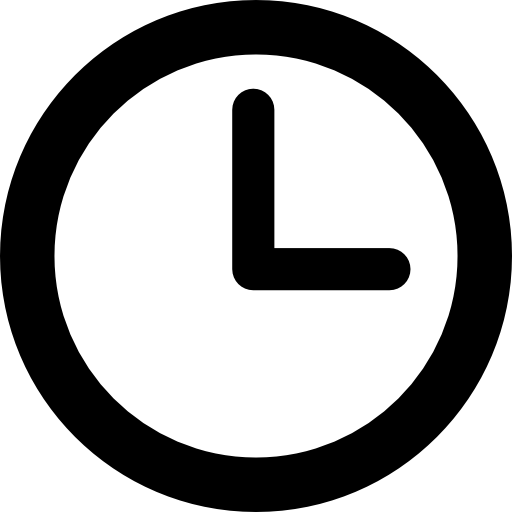


[Image result for green safe icon](https://www.google.co.uk/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjqx6OMof7SAhUEPhQKHVn4DRcQjRwIBw&url=https://cohortarrivals.com/&psig=AFQjCNEwYwA6NohlTZVOcy5IoqwMAfE-ig&ust=1490964329246203)

The whole box should be clickable and, it should send them to the ‘tracking page’ when they click it



Kurt

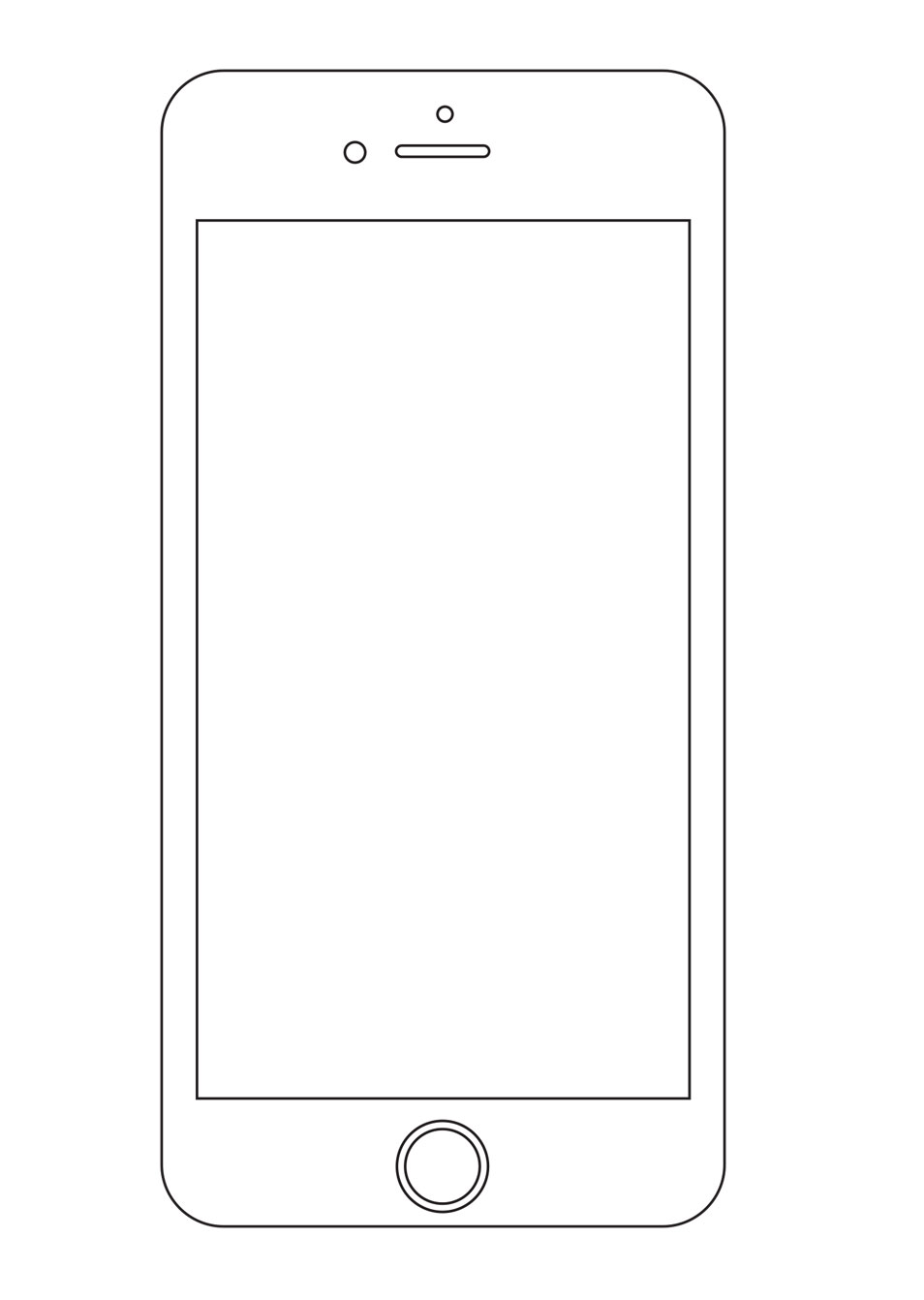


[Image result for green safe icon](https://www.google.co.uk/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjqx6OMof7SAhUEPhQKHVn4DRcQjRwIBw&url=https://cohortarrivals.com/&psig=AFQjCNEwYwA6NohlTZVOcy5IoqwMAfE-ig&ust=1490964329246203)

Add New Device

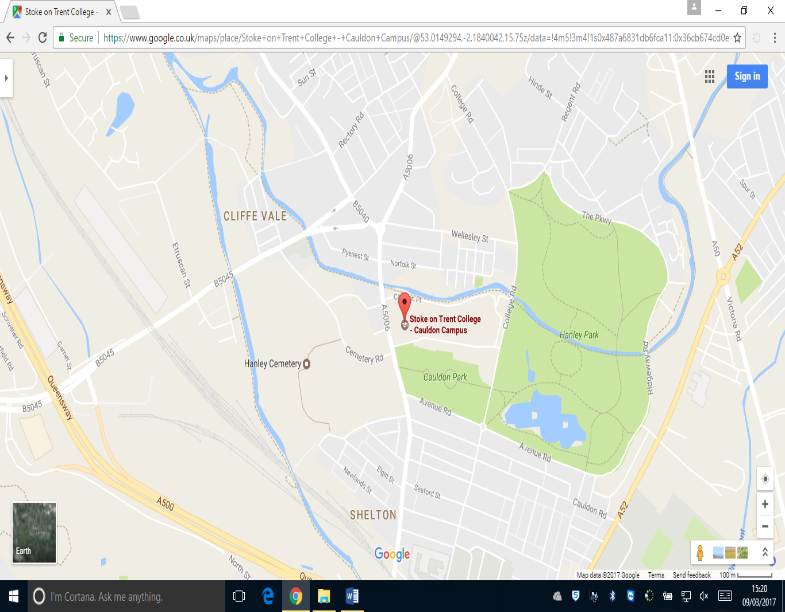
This is the ‘add device’ button and upon click, sends the user to the add new device page.

**Add/Edit Page**



This is the clear button and upon click, clears all the fields on this page

The back button sends the user back to the home page.



Child’s name

Child’s phone number x

X

X

Maps

100m

Curfew time:

XX:xx



Add Image

Save

Clear

Set Home

This buttons clears their field quickly.

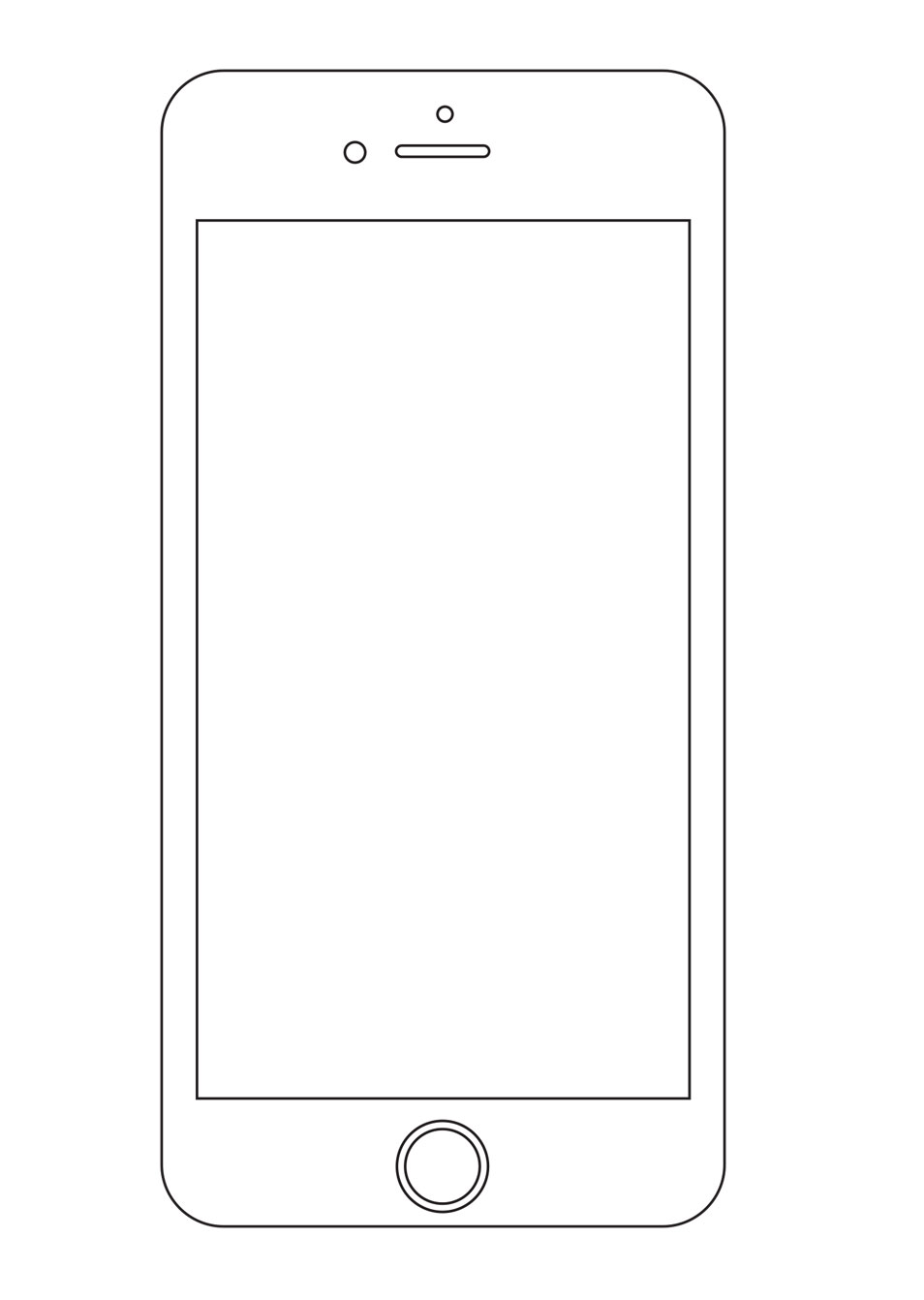
This is a textbox that shows the user the accuracy of perimeter but also allows them to change it.

Set home button allows you to set a location on the map

Like the home page, this page allows the user to scroll down to see more of the add/edit page.

Track bar the changes the perimeter of the circle shown on the map. The default will be 1km

Track page



Edit button sends the user to the add / edit page.

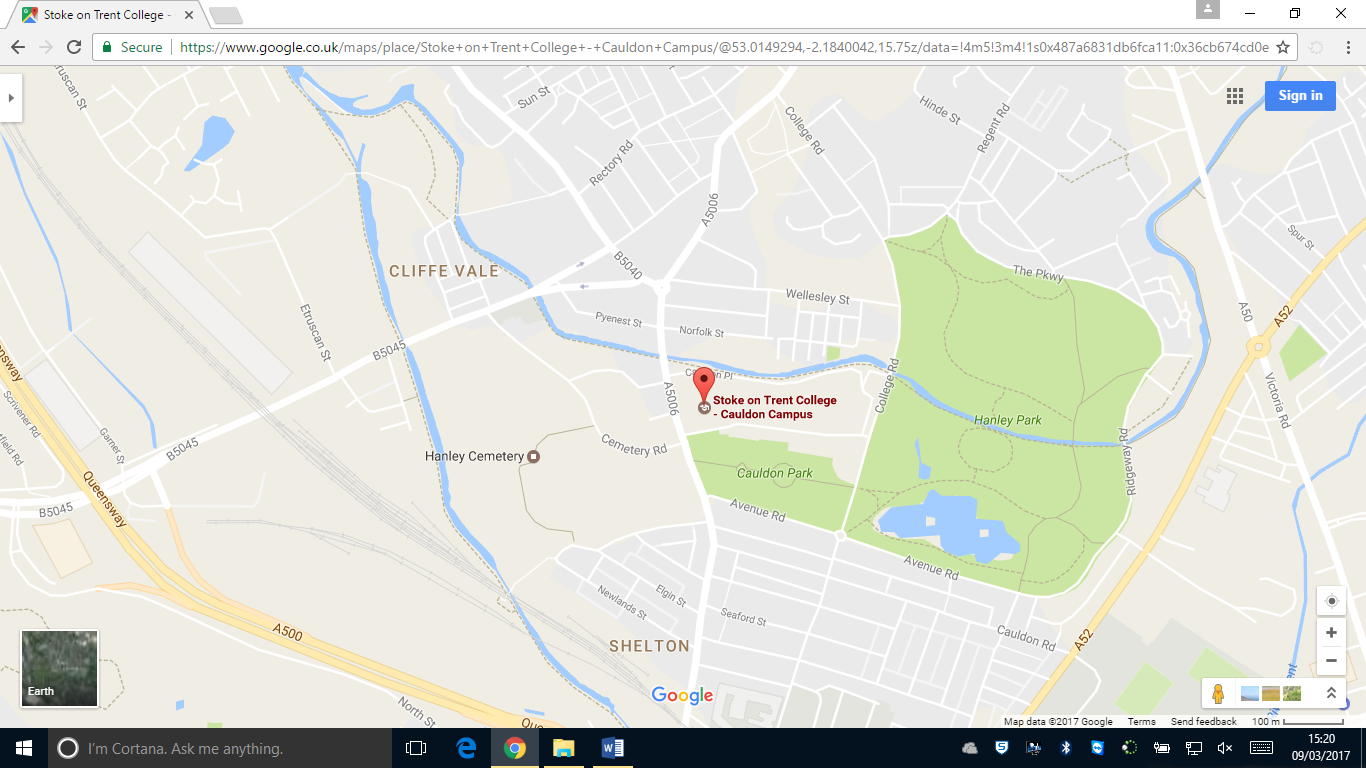
The back button sends the user back to the home page.

Edit

Child’s name

This page will all be labels except for the map which will be a live feed

Child’s phone number x



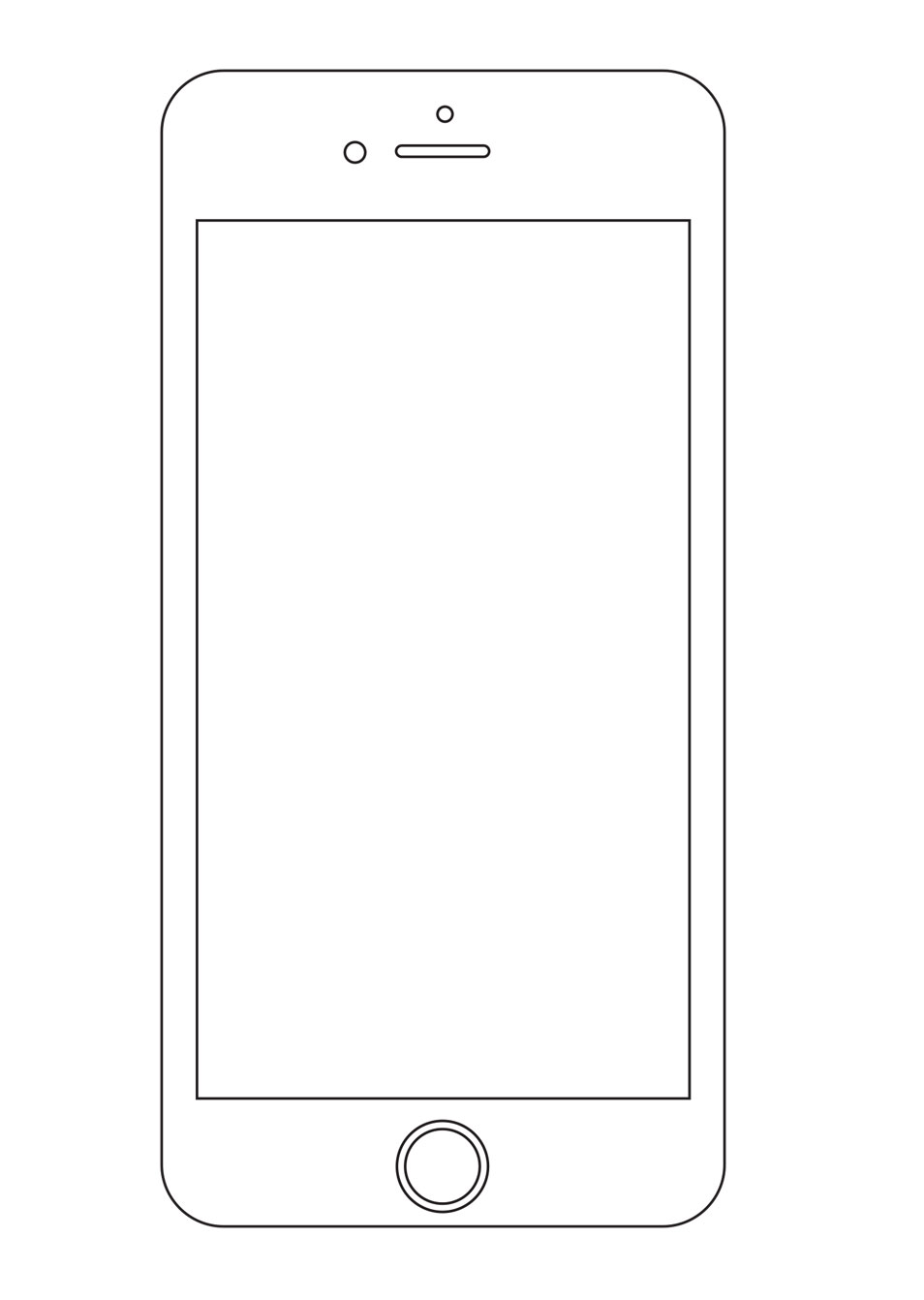
Maps

8km

Curfew time:

XX:xx

Setting Page



Account

Settings

About

Contact Us

All buttons that sends the user to the corresponding pages.

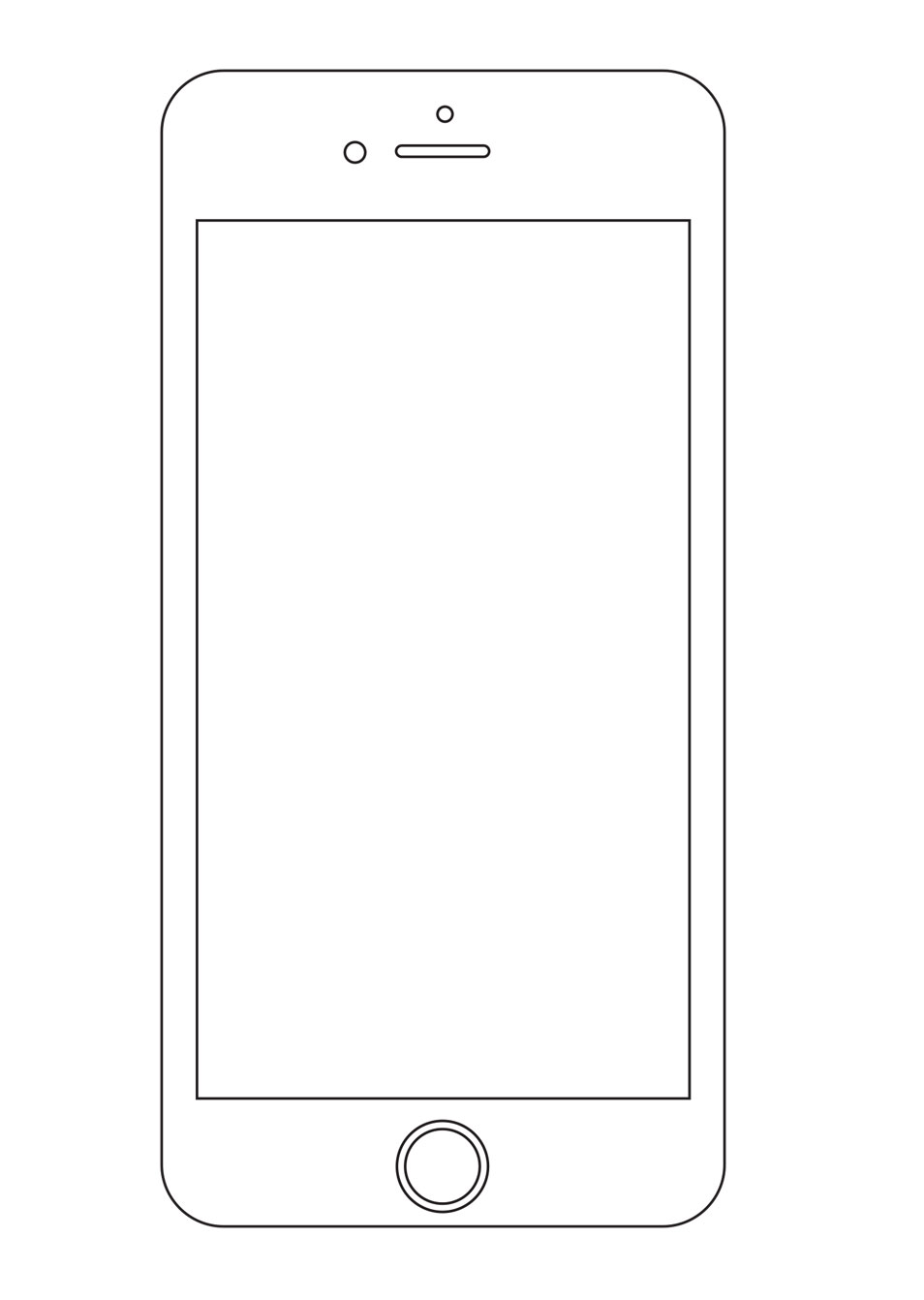
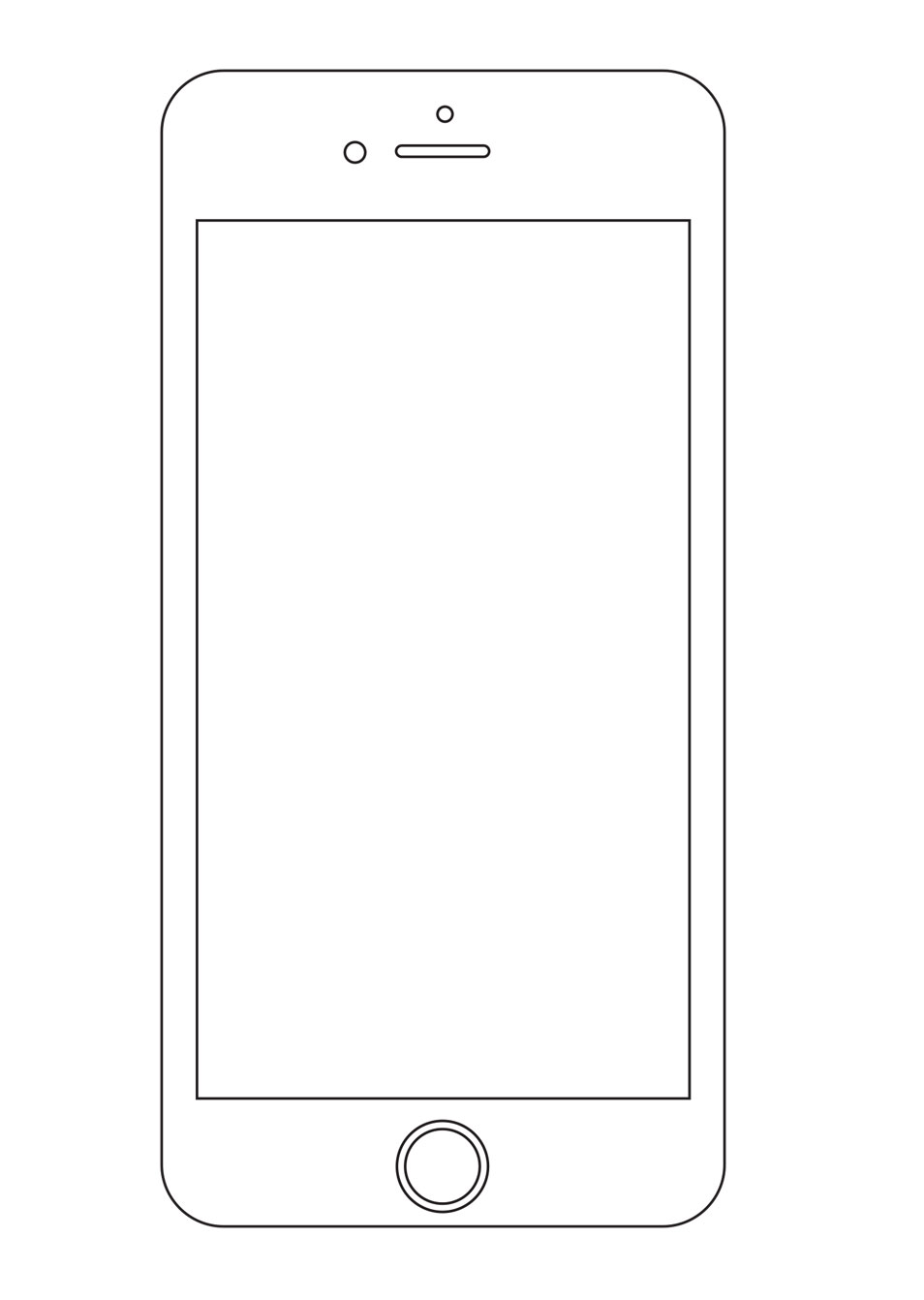
This is the sign out button that log the user back out to the sign in page for when they finish using the app.

Sign out

Setting page buttons

About Us

Username: (username)



Tick box and upon click shows the user the password in letters not asterisks.

Textbox telling the user about the app and about the company that made the app

Account

About

Save new pass

New Password:

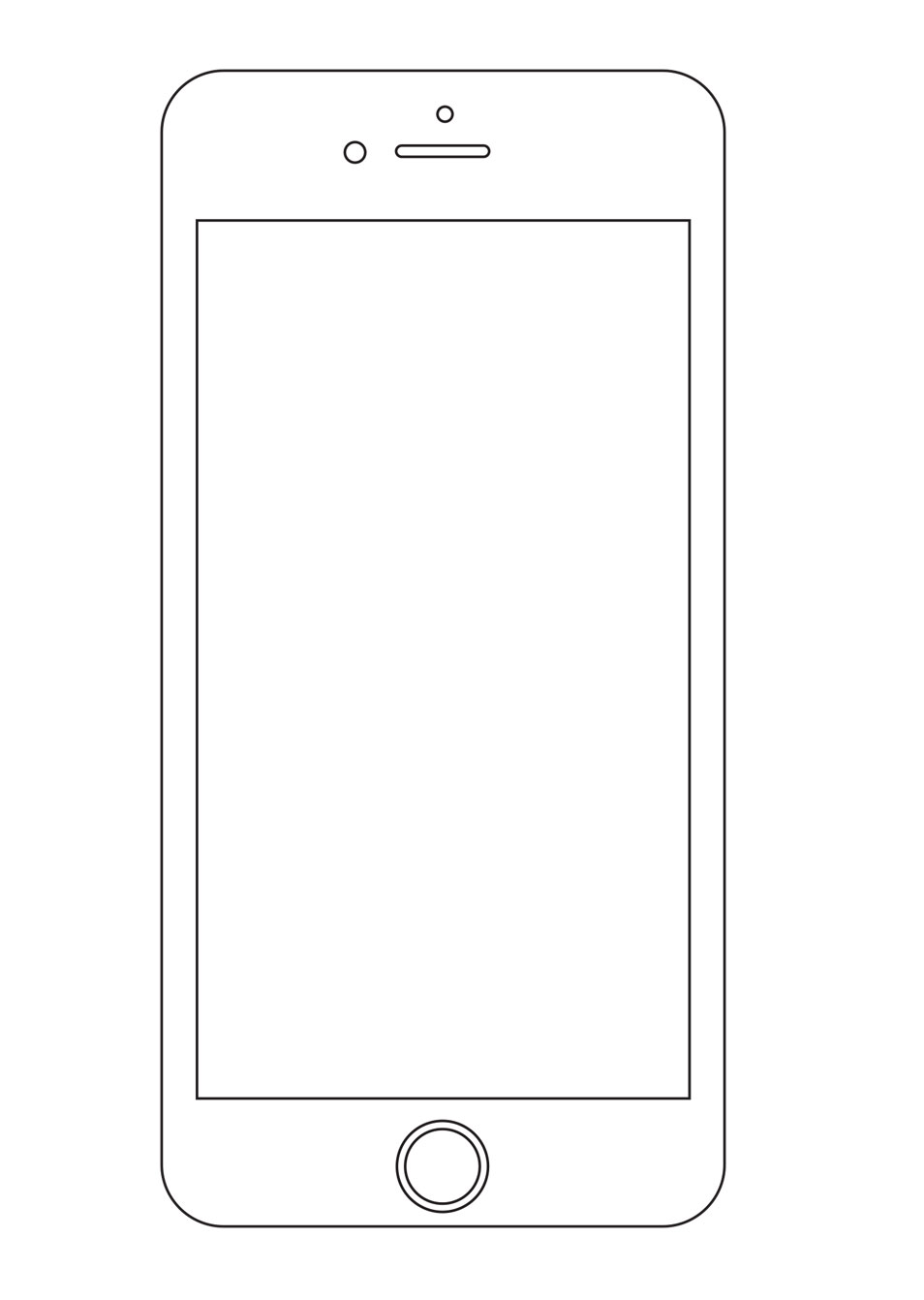
New Password:

Changing password

Password: \*\*\*\*\*\*\*\*\*

Show

Textboxes that allows the user to change their password.



Contact Us

Message

Textbox that allows the user to type their message

Send

Button that sends the message to a certain email (the company’s help email)

# Smartphone Tracker Justification

Throughout the mobile tracker app, I have used a colour scheme of light blue and white for the background and black for the font. This colour scheme gives out very good colour contrast as the light background makes the black font very easy to read.

I have also used this because it enables the app the be accessible to almost everyone. Even though it affects people with tritanopia who are unable to perceive blue light., I have found a research from colormax.org saying that tritanopia affects one percent of the population, therefore I think that this is a more suitable colour to cater for more target audience as other types of colour blindness are more common which means that they might be more likely to use the tracker than people with tritanopia.

Additionally, I have used light blue as it is not too harsh to the eyes and a light blue with dark text enables it the information so that has greater legibility thus easier to read for everyone. By doing so, older users will also be able to easily use the app as opposed to using harsh colours like red background and green text to convey information which is very hard to read. This design that I have chosen also follows one of Jackob Nielson’s heuristics which is his aesthetic and minimalist design. I have made sure that information is conveyed accurately and precisely and that the colour scheme doesn’t diminish the information that is provided. Not only does this follow the principle, but having this colour scheme throughout the tracker also followed Schneiderman’s rule of consistency.

Moreover, throughout the tracker, I have also used the font Verdana and the font size ‘12’, I have used these specifics to ensure that the tracker app is accessible not only to abled people but also to old users and people with disabilities. Using this font has good readability and so anyone can easily read it. Furthermore, the font size isn’t too small or too big that it would cause blurriness for some people – it is just the right size that would allow a lot of people to read it. Overall, not only does this enable to make the app accessible but it also makes it look professional-looking.

I have decided to have a log in page. This way the app is more secure and would prevent other people from tracking the children apart from the parents. The log in page also follows Jackob Nielson’s heuristics that there should be a match between the system and the real word. This is because in this page, I have used phrases like ‘Create account’ and ‘Forgot username/password’ which the user is familiar with and can easily understand what it’s about.

For the label of the tracker’s app in the log-in page, I have made this bigger than the rest of the text on the ‘sign-in’ page to have the pop-out effect. By having so, it will grab the user’s attention much better and so they would know this is Media Design’s tracker app which gives better advertisement to the company and helps the user know what the application is all about.

I have also used one of Nielson’s heuristics of helping the user recognise errors, if the user inputs the incorrect credentials then they are told that they got it wrong and to try again. This is so that the user knows that they got their login credentials instead of not telling them anything and they get confused. Additionally, I used the colour red to show that it is a warning and that it needs to be resolved to progress to other stages of the application.

For the home page of the tracker, I have used common groupings, this is for the children’s name, image, as well as their distance and curfew icons. By using common groupings, information can be easily seen as a whole - so that the user will immediately know that this name, image, etc. is for one child. Additionally, by grouping them, the user can click anywhere they want on the square and it will send the user to the tracking page where they can see where their child is – this makes it a lot efficient for the user as they wouldn’t need to try pinpoint on a location to get to the tracking page, they can just click inside the box and it will send them to the page. This design choice follows Jackob Nielson’s efficiency of use.

I have also used the common colour such as green (green thumbs up) for when the child is within the range while red (red mark) for when they are out of the range or curfew time. This is because it is a common colour convention that if people see red they would see danger and green people would think about safety – by following common conventions, users would know what you are trying to tell them without worrying about misunderstandings.

In the home page, I have also used Nielson’s heuristic which is recognition rather than recall – I have made sure that the settings button is located at the top right hand side of the screen, this is because it is a spot most commonly used by different applications to put their setting page in, and so by following common conventions users will easily identify what it is and makes them easily remember where the setting page is located.

In the add/edit page of my tracker, I have used continuity, the user must enter their name, then the phone number and so on. This ensures that the user doesn’t get confused on what they are doing as they are filling out the field in one direction which is going down.

Moreover, in the add/edit page, I have also followed one of Schneidermans’ rule which is to enable frequent users to use shortcuts. I have added clear buttons and the ‘x’ buttons on the field to clear pages or a field quicker. By doing so, this makes the whole process for users a lot easier to use and it is more efficient for them as their interaction is heavily reduced – this is especially in cases where they input all the incorrect data in the fields and so using the ‘clear’ button helps get remove all the data quickly.

In the add/edit page, Nielson’s visibility of system status can also be shown when the uses the slider to change the perimeter of the set distance – in the map the circle will expand or shrink depending on what the user wants giving them an idea of the scale of their choice.

Schneidermans’ consistency is also followed in both the ‘add/edit’ and tracker page – phrases and terminology are the same on both pages so users easily know what the app is on about. An example of this would be how I used Child’s name and child’s phone number on both – this way there are no mix up or confusion in any of the pages. Not only does this follow the principle, but consistency is also shown the by back buttons – they are all located at the same spot which is at the top left hand side of the mobile device. This way the user can easily locate it as it is always in the same place so they wouldn’t need to think about looking for it, they will instantly know that the back button is located at the top left hand side of the screen.

Lastly, in the setting page and setting page options, I have used the design perception of similarity. In the setting page, all the options are buttons created in a consistent manner- arrows pointing to the right. By doing so, the user will know that these are choices that upon clicked will send them to the designated page. Similarly, for the options such as ‘Account’, ‘About’ and ‘Contact Us’ pages, they are also created similarly such as that they all have back buttons at the left side of the label – thus the user will easily know that this will take them back to the setting page.

# Appendix 4 – Storyboard for Kiosk

**Home Page**

?

Need help?

**Personalised Gift Card Maker**

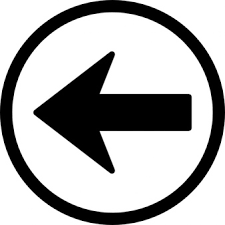
This button is the help page telling the user what to do if they’re not sure on how to use the kiosk.

Get your gift card! Click START.

For the title of the pages: Font size: 20 , font type: Verdana

This kiosk will be a touch screen kiosk and upon click start would send the user to the gift card selection

START



This page will be a popup that will tell the user how to use the kiosk just in case they are unsure of how to use it.

Help

How to use the kiosk:

1.

2.

3.

FAQ

**Once start button is clicked**

This is the home button it sends the user back to the start-up screen to if they want to reset



Gift Card Selection

Select Gift Card Type

Select Amount

Type Message

Payment

Select Image

Argos

Steam

Amazon

Apple

Example

Netflix

WH Smith

Example

This is a sidebar that shows the user where they are in the card making phase. The user will also be allowed to click on any of the sidebar buttons and it will send them to that specific process.

For the rest of the text on each page:

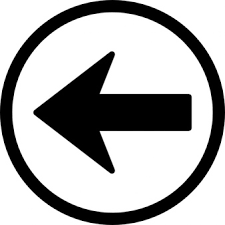
Font size: 14, font type: Verdana

Next

This next button sends the user to the next process

**Select amount**

This previous button sends the user back to the previous process.



Select amount

£10

£5

£25

£50

£100

Select Gift Card Type

Select Amount

Type Message (optional)

Payment

Select Image (optional)

This next button sends the user to the next process

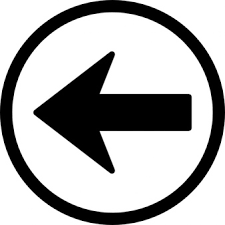
Next

Pay now

However, if the user just wants to pay the gift card that is not personalised, then they can just pay without doing so.

The browse phone button allows the user to connect their phone to the kiosk and browse for images on their phone and upload it

**Select Image**



Select Image

Browse the internet

Take Image

Browse phone

Type Message (optional)

Select Gift Card Type

Select Amount

This browse the inter button sends the user to a web browser where they are allowed to look for images online

Select Image (optional)

This take image button will use the kiosk’s camera to take an image that can be used as an image.

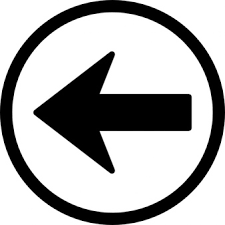
Image preview

Payment

This page is optional, the user can skip this and pay to get a normal gift card but they can also personalise it.

Next

**Message page**



Message Box

Type your message here

Character limit: 40

Type your message here

Character limit: 40

Select Gift Card Type

Select Amount

Type Message

Payment

Select Image

Clear

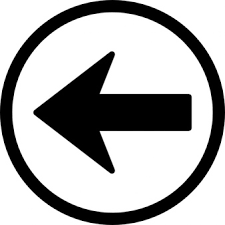
This will be an onscreen keyboard that covers up the bottom of the page upon clicking on the message box

Save Message

Next

Add to basket

**Shopping basket**



Shopping basket

Select Gift Card Type

Select Image

Type Message

Payment

Select Amount

Price

Quantity

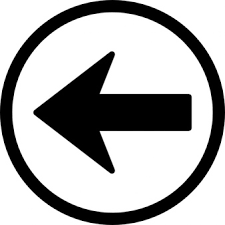
Gift card

The user will be allowed to change the quantity of the gift card that they are going to buy

Total Price

Total Price

Checkout



After clicking this button with the correct credentials that user will get their card with a receipt. A pop up will appear to let them know that it is printing.

Please wait

At first only the please insert your card will appear, however, after inserting their card the enter your pin code will appear with boxes where the user will be allowed to enter their pin.

Pay

X

X

X

X

Select Gift Card Type

Select Image

Type Message

Payment

Select Amount

Enter your pin code

Please insert your card

Payment

# Kiosk Justification

Throughout the kiosk, I have used a colour scheme of light orange for the background with the buttons having a grey background and white or black font. This colour scheme gives out very good colour contrast as the light background makes the black font very easy to read, similarly the grey background enables the user to also read the white font that is used in those cases.

Additionally, I have used light orange as it is not too harsh to the eyes, with the dark text enables it the information so that has greater legibility thus easier to read for everyone. By doing so, older users will also be able to easily use the app as opposed to using harsh colours like red background and green text to convey information which is very hard to read. This design that I have chosen also follows one of Jackob Nielson’s heuristics which is his aesthetic and minimalist design. I have made sure that information is conveyed accurately and precisely and that the colour scheme doesn’t diminish the information that is provided. Not only does this follow the principle, but having this colour scheme throughout the tracker also follows Schneiderman’s rule of consistency.

Moreover, throughout the kiosk, I have also used the font Verdana and the font size ‘12’, I have used these specifics to ensure that the tracker app is accessible not only to abled people but also to old users and people with disabilities. Using this font has good readability and so anyone can easily read it. Furthermore, the font size isn’t too small or too big that it would cause blurriness for some people – it is just the right size that would allow a lot of people to read it. Overall, not only does this enable to make the app accessible but it also makes it look professional-looking.

The only times the font size was 14 is during the title of each page of the kiosk – this is to have that pop-out effect so the user know what stage they are at because making it bigger ensures that the information displayed captures the attention of the user more easily.

Furthermore, I have also used Geons throughout the kiosk – this is mainly using squares or rectangles for options within each page, and rounded rectangles for the buttons to move on the next pages. By using Geons users can easily recognise the shapes – even those with disabilities making the kiosk accessible to all users.

In everyone page of my kiosk, excluding the start-up page, I have also ensured that the user has control and freedom – one of Nielson’s heuristics. This is the ‘home button’ at the top left hand side of the screen. I have added this button so that if the user decided that they change their mind on buying the gift card or they want a complete reset as they have don’t it completely wrong then they can just click this button and start again.

Throughout the kiosk, I have also used proximity, this is when I group up the side menu together to let the user know what stage they are at and to allow them to click the button and move on to the next page. By putting them all in proximity with each other, the user will know that it is a choice, especially since there’s an arrow pointing on each page and would therefore use the side menu to help them when using the program. This also links us to one of Schneiderman’s rule which is to strive for consistency – the side menu all are in the same place and have identical terminology and place on each stage, this is so that the user will not encounter misunderstanding when using the program but instead knows exactly what to do and what each button on the side menu does as they will see it in most pages.

In the start-up page of my kiosk, I have used one of Nielson’s heuristics ‘help and documentation’ I have attained this by having a question mark button as well as a label saying ‘need help? By doing so users who might not know how to use the program fully can use the documentation to ensure that they get the experience that they want when using the program. Additionally, the ‘need help’ phrase also links to Nielson’s ‘match between system and the real world’ as the program is speaking the user’s language as if the kiosk is asking the user whether they need help or not giving a more user-friendly design.

In the payment page, I have added a clear button, this is to ensure that if the user decides that the message they wrote wasn’t right and they used the character limit, then they could just press the button to immediately clear the message box instead of pressing backspace and waiting taking up their time – this follows Schneidermans’ rule of permitting easy reversal of actions.

In the payment page of my kiosk, I have also used one of Schneiderman’s rule which is to yield closure. After the user clicks the pay button, a pop up will appear saying that their gift card is being printed, by doing so it gives the information that they have finished using this kiosk and all they should do is wait until the gift card is printed so they could leave.

Continuity is also used in all my kiosk page, each page usually flows from the top left to the bottom right in a diagonal line, by having good continuity the user can follow the flow of the program much easier and would easily make sense of the kiosk as opposed to having confusing kiosk which might be difficult to use.

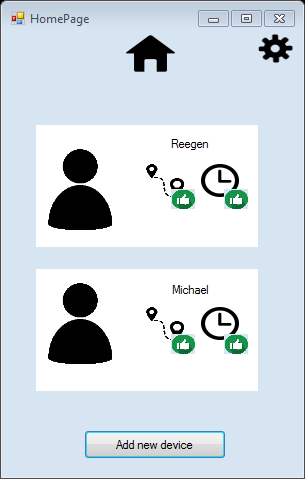
# Appendix 5 – Prototype for Phone App



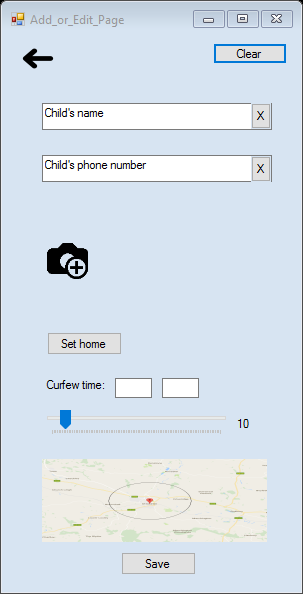
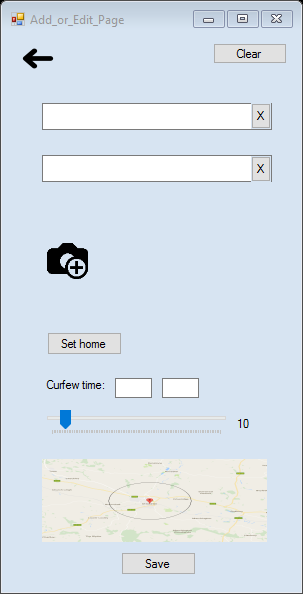
This is the sign in page of the tracker up and will be the first thing the user will see.



If the user puts in the wrong credentials then an error message appears.



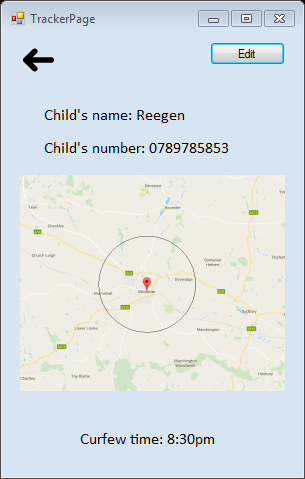
Upon inputting the correct credentials and pressing the sign in button, the user will be sent to the home page as shown on the image. It will have the green thumbs up if they are within distance and on curfew time but will show a red outline if not.



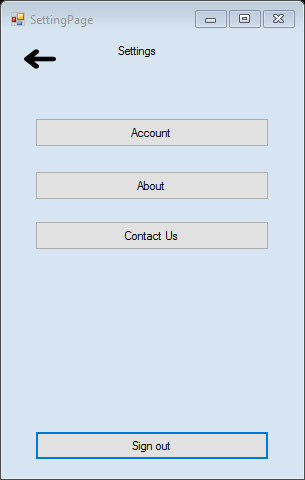
The user can click the ‘add new device’ button which will send them to the’ add or edit page’ allowing them to put their child’s detail and the curfew time and distance that they want.

Clicking the clear button will clear all the fields, similarly, clicking on the ‘x’ button on the fields will get rid of the words in that field.

Clicking the back button sends the user back to the home page.



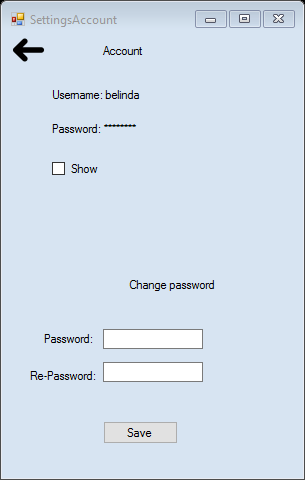
Clicking anywhere inside the box on the home page will send the user to the tracking page, here the user will see the detail of their child as well as the distance and the curfew time that they need to be back by.



Clicking on the setting button at the top right of the home page will take the user to the setting page where they can choose to check their account, the about page, or to contact the developers of the program about potential bugs.

*Clicking the back button, like the ‘add or edit page’, will send the user back to the home page.*

*This is also where the user can sign out and clicking this button will send them back to the sign in page.*

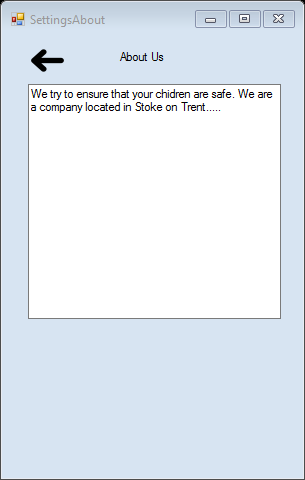


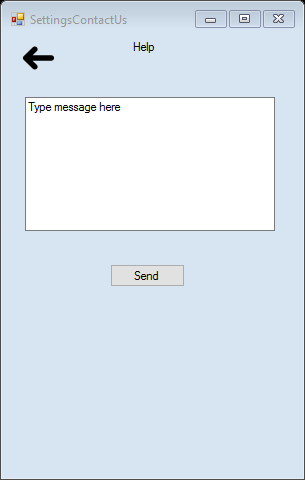
*Clicking the account button will send the user to the account page where they can see their account’s detail – the username and password. Click the show button would should the password in characters not asterisks.*

*Clicking on the back button would send the user back to the setting page.*

*This is also where the user can change their password if they intend to do so.*

*Clicking on the about button sends the user to the about page. Like the account page, the back button sends the user back to the settings page.*

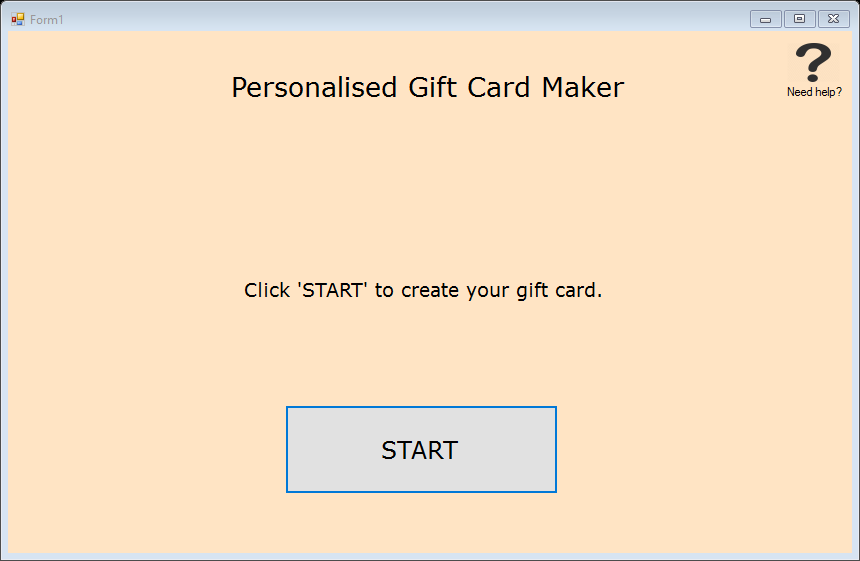
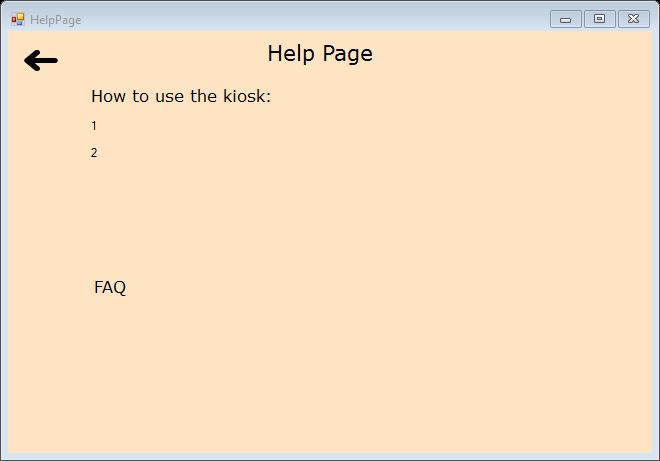




*Clicking on the about button sends the user to contact us page. Like the account page, the back button sends the user back to the settings page.*

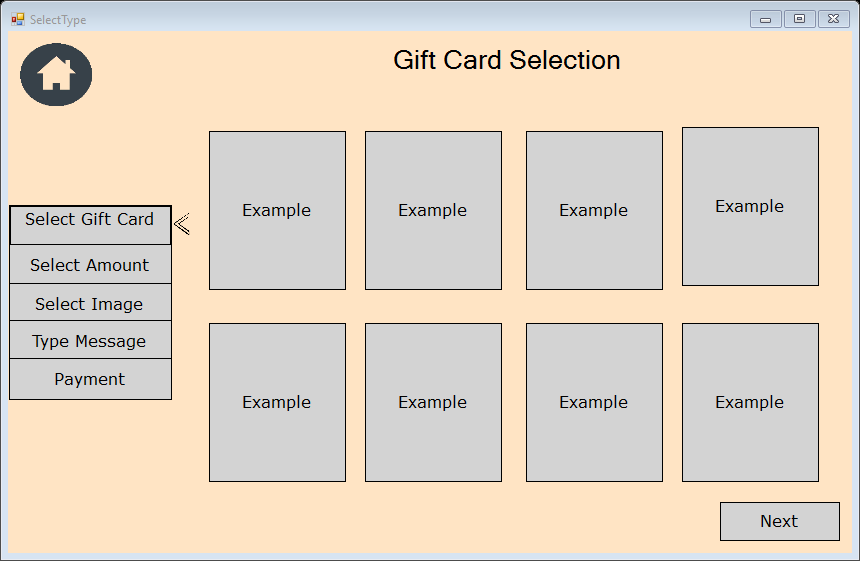
# Appendix 6 – Prototype for Kiosk

This is the start-up page of the kiosk and it will be the first thing the user will see. It has the start button and a help page.

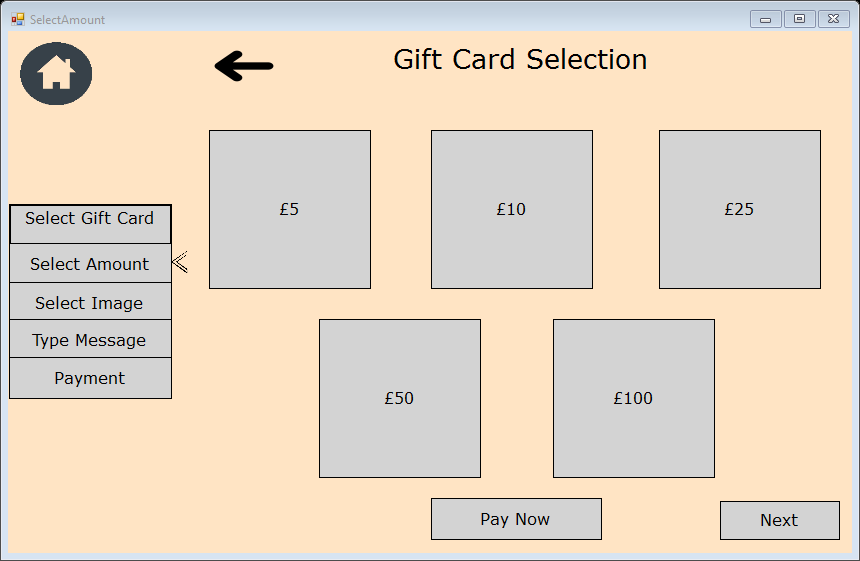


Clicking on the need help button at the top left will open up a pop up page that will tell the user how to use the kiosk and answer some of the frequently asked questions about the kiosk.

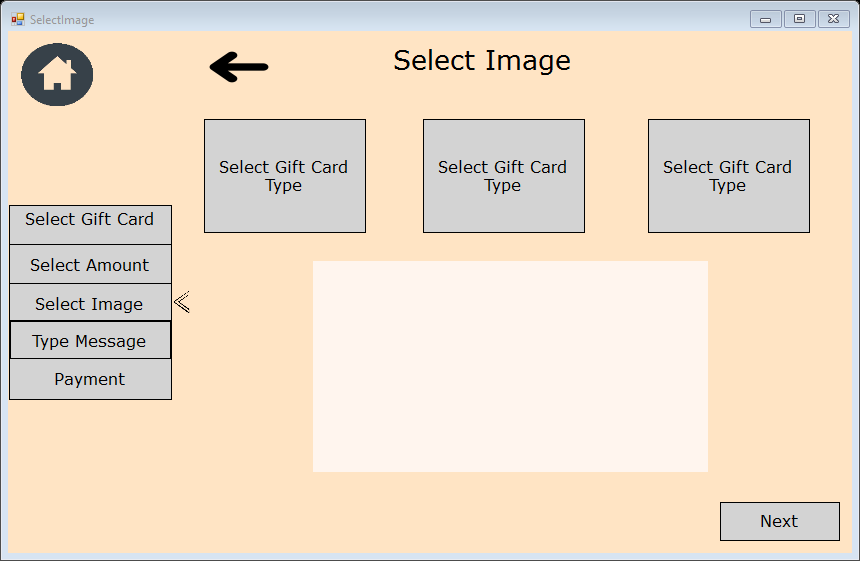
*Clicking on the back button will close the popup page completely sending them back to the start-up page.*



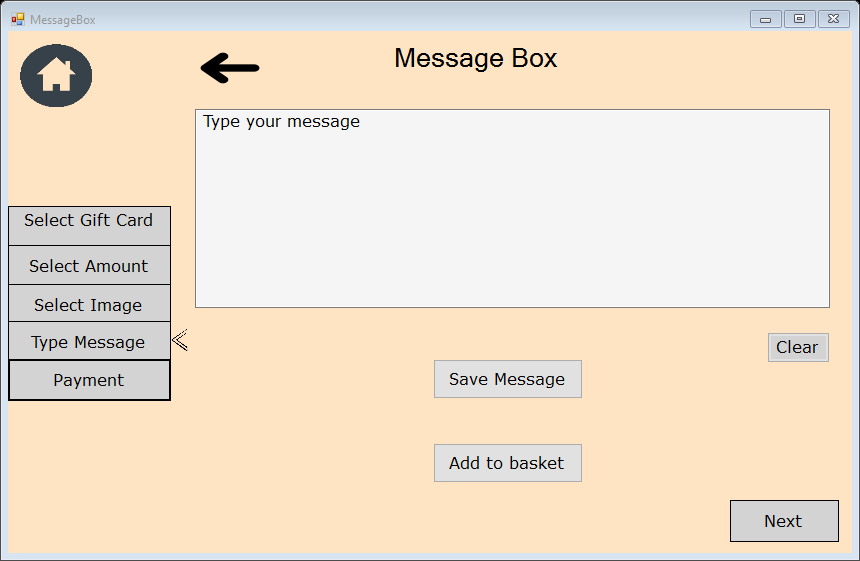
*Upon clicking on the start button, they will be sent to the gift card selection page where they can select their gift card type. Clicking on the home page button will send the user back to the start-up page – this is the same for the rest of the page.*



*When the user clicks the next button, after the gift card selection page, they are then sent to the select amount page, the user is also sent to this page if the user clicks the ‘select amount’ button on the side menu. Clicking on the back button sends the user to the gift card selection page.*



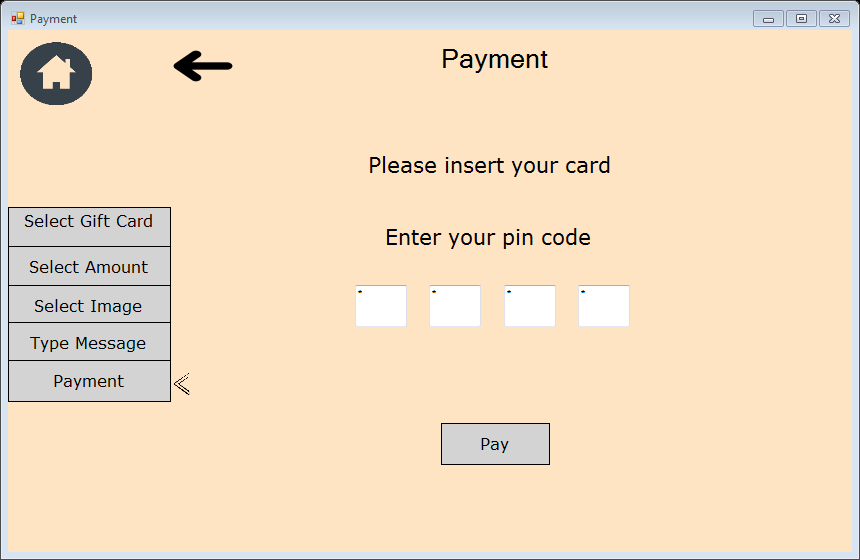
*After the select amount page, when the user clicks the next button, they are then sent to the select image page, the user is also sent to this page if the user clicks the ‘select image’ button on the side menu. Clicking on the back button sends the user back to the select amount page.*



*The message box is what comes after the select image page once the user press the ‘next’ button. Like the other pages, the user will be sent to this page if the user clicks the ‘type message’ button. To get the ‘next button’ to appear, they have to click the ‘add to basket’ button first. Clicking on the back button sends the user to the select image page.*



*The user will then be sent to their shopping basket upon click next or when they click the payment button on the side menu, in here they can choose the quantity of their gift card and shows them the total price. Clicking on the back button send the user back to the type message page.*



*This is the last page of the kiosk, when the user presses the ‘check out’ button on the shopping basket this is where they will be sent, the kiosk will ask the user to insert their card and ask for a pin. Once they have payed and all transactions are complete, the kiosk will then tell the user that the gift card is printing as shown. Clicking the back button sends the user back to the shopping basket.*

# Appendix 7 – Functionality Testing for Phone App

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Number** | **Description** | **Test Data** | **Expected Outcome** | **Actual Outcome** | **Action / Notes** |
| 1. | Log in page | Use ‘Belinda’ as the username and ‘password’ as the password | When I use these credentials, and press the log in button, it should send me to the home page of the tracker | When I used the credentials and pressed the sign in button, it sent me to the home page as expected |  |
| 2 | Log in page | Use ‘asdfas’ as the username and ‘asdfas’ as password | When I use these credentials, it should give the user an error message | Using the wrong credentials gave me the error of ‘Incorrect credentials. Please try again’ in red text |  |
| 3 | Home page -setting button | Click on the settings button | When I click on the setting button, it should show the setting page | Clicking on the setting button showed me the setting page as expected |  |
| 4 | Home page -child information | Click anywhere inside the box for the child info | When I click anywhere inside the box on the child info, it should send me to the tracking page. | Clicking on the icon, label and anywhere inside the box sent me to the tracking page. | The only time it didn’t send me to the tracking page was when I clicked on the time and distance icon. |
| 5 | Home page - add button | Click on ‘add new device’ | When I click on the add new device button it should send me to the add or edit page. | Clicking on the button send me to the ‘add and edit page’ as expected. |  |
| 6 | Tracker page -back button | Click the back button | When I click the back button, it should go back to the home page. | Clicking on the back button sends me back to the home page. |  |
| 7 | Tracker page- edit button | Click on the edit button | When I click on the add new device button it should send me to the add or edit page. | When I clicked the edit button it send me to the ‘add or edit page. |  |
| 8 | Add/edit page – clear button | Click the clear button | It should clear all the field in the page | When I clicked on the clear button, all the pages in the field cleared. |  |
| 9 | Add/edit page – child’s name clear button | Type ‘asdfas’ and press the clear button | When I press the ‘x’ button, it should remove the writing in this field and nothing else | Clicking on the ‘x’ button cleared this field only removing ‘asdfas’ and keeping everything else. |  |
| 10 | Add/edit page – child’s phone number | Type ‘123’ and press the clear button | When I press the ‘x’ button, it should remove the writing in this field and nothing else. | Clicking on the ‘x’ button cleared this field only removing ‘123’ and keeping everything else |  |
| 11 | Add/edit page – save button | Click the save button | When I click the save button it should save the fields and send me to the home page. | When I clicked the save button it sent me to the home page |  |
| 12 | Settings page – account button | Click the account button | When I press the account button, open the account page | Pressing the account button sent me to the account page as expected |  |
| 13 | Settings page – about button | Click the about button | When I press the about button, open the about page | Pressing the about page sent me to the about page as expected |  |
| 14 | Settings page – contact us button | Click the contact us button | When I press the contact us button, open the contact us page | Pressing the contact button sent me to the contact us page as expected |  |
| 15 | Settings page – sign out button | Click the sign out button | When I press the sign out button, it should sign out the user and send them to the start-up page | Clicking the sign out button sent the user to the log in page indicating they have logged out. |  |

# Appendix 8 – Functionality Testing for Kiosk

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Number** | **Description** | **Test Data** | **Expected Outcome** | **Actual Outcome** | **Action / Notes** |
| 1. | Start page – help button | Click the ‘help’ button’ | When I click on the help button it should send me to the help page. | Clicking on the help button sent me to the help page |  |
| 2 | Start page – start button | Click the ‘start’ button | When I click on the start button it should send me to the gift card selection page. | When I clicked on the start button, it sent me to the gift card selection page |  |
| 3 | Kiosk – home button | Click the ‘home’ button | When I click the home button it should send me to the start-up page | When I clicked the home page, it sent me to the start-up page |  |
| 4 | Kiosk – side menu | Click the ‘select card type’ button | When I click on the select card type button, it should send me to the gift card selection page. | Clicking on the select card type button sent me to the gift card selection page |  |
| 5 | Kiosk – side menu | Click the ‘select amount’ button | When I click the select amount button, it should send me to the select amount page | Clicking on the button sent me to the select amount page as expected. |  |
| 6 | Kiosk – side menu | Click the ‘select image’ button | When I click the select image button, it should send me to the select image page. | When I clicked the button, it sent me to the select image page. |  |
| 7 | Kiosk – side menu | Click the ‘type message’ button | When I click on the type message button, it should send me to the message box page. | Clicking on the type message button sent me to the message box page. |  |
| 8 | Kiosk – side menu | Click the ‘payment’ button | When I click the payment button, it should send me to the shopping basket. | When I clicked on payment button, it sent me to the shopping basket. | However, in some pages, it sent me straight to the payment page not the shopping basket – I have now changed it so all the buttons go to the shopping basket. |
| 9 | Gift card selection page – next button | Click the ‘next’ button | When I click the next button, it should send me to the select amount page. | Clicking on the next button sent me to the select amount page. |  |
| 10 | Select amount page- next button | Click the ‘next’ button | When I click the next button, it should send me to the select image page. | When I clicked the next button it send me to the image page as expected. |  |
| 11 | Select amount page- back button | Click the ‘back’ button | When I click the back button, it should send me back to the gift card selection page. | When I clicked the back button, it sent me to the gift card selection page. |  |
| 12 | Select amount page- pay button | Click the ‘pay now’ button | When I click the ‘pay now’ button it should send me to the shopping basket. | Clicking on the pay now button sent me to the shopping basket. |  |
| 13 | Select image page- next button | Click the ‘next’ button | When I click the next button, it should send me to the select amount page | Clicking on the next button sent me to the select amount page as expected. |  |
| 14 | Select image - back button | Click the ‘back’ button | When I click the back button, it should send me back to the select amount page. | When I clicked the back button, it sent me to the select amount page. |  |
| 15 | Type message page- next button | Click the ‘next’ button | When I click the next button, it should send me to the shopping basket | When I clicked on the next button, it sent me to the shopping basket. |  |
| 16 | Type message - back button | Click the ‘back’ button | When I click the back button, it should send me to back to the select image page. | Clicking on the back button sent me to the select image page as expected |  |
| 17 | Type message – clear button | Click the ‘clear’ button | When I click the clear button, clear the message box field. | Pressing the clear button, cleared the field as expected |  |
| 18 | Shopping basket page- next button | Click the ‘next’ button | When I click the next button, it should send me to the shopping basket | When I click the next button, it sent me to the shopping basket. |  |
| 19 | Shopping basket - back button | Click the ‘back’ button | When I click the back button, it should send me back to the type message page | Clicking on the back button sent me to the type message page as expected |  |
| 20 | Shopping basket page- back button | Click the ‘back’ button | When I click the back button, it should send me to the shopping basket | When I clicked the back button, it send me to the shopping basket |  |
| 21 | Shopping basket – pay button | Click the ‘pay’ button | When I click the pay button, it should tell the user that the gift card is currently printing. | Clicking on the pay button told the user that the user that the gift card is currently printing. |  |

# Appendix 9 – User Testing for Phone App

**User Profile**

|  |  |
| --- | --- |
| **Attributes** | **Values** |
| Gender | (Males),(Females) |
| Age | (25-30), (31-40),(41-50),(51-55) |
| Occupation | (Any) |
| Computer Literacy | (None) |
| Disabilities | (Visual Impairment) |

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken** |
| Use set credentials on login page to get to the home page | Yes | 14 |
| Add a child with curfew time and distance | Yes | 25 |
| Go to tracking page | Yes | 5 |
| Access the setting page and open every button on the setting page | Yes | 35 |
| Sign out | Yes | 3 |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy to use it was tracker app ( 2 )

2.) The tracker was simple and quick to use from start to finish. ( 3 )

3.) I found that setting the distance of when my child needs within was easy to do. ( 1 )

4.) I found that setting the curfew time of my child was easy to do. ( 2 )

5.) I found the icons used were appropriate and clear and easy to understand. ( 2 )

6.) The tracker has a pleasant colour scheme that did not hurt my eyes ( 2 )

7.) I had no trouble reading the font size and type that was used in the tracker app ( 2 )

8.) The buttons used had the right size, it wasn’t too big or too small. ( 1 )

9.) The tracker ensured that I can have help when I am unsure of what to do. ( 4 )

10.) The tracker had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken** |
| Use set credentials on login page to get to the home page | Yes | 16 |
| Add a child with curfew time and distance | Yes | 32 |
| Go to tracking page | Yes | 8 |
| Access the setting page and open every button on the setting page | Yes | 45 |
| Sign out | Yes | 5 |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy to use it was tracker app ( 2 )

2.) The tracker was simple and quick to use from start to finish. ( 2 )

3.) I found that setting the distance of when my child needs within was easy to do. ( 1)

4.) I found that setting the curfew time of my child was easy to do. (1 )

5.) I found the icons used were appropriate and clear and easy to understand. ( 2 )

6.) The tracker has a pleasant colour scheme that did not hurt my eyes ( 2)

7.) I had no trouble reading the font size and type that was used in the tracker app ( 2 )

8.) The buttons used had the right size, it wasn’t too big or too small. ( 3 )

9.) The tracker ensured that I can have help when I am unsure of what to do. ( 5 )

10.) The tracker had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken** |
| Use set credentials on login page to get to the home page | Yes | 12 |
| Add a child with curfew time and distance | Yes | 25 |
| Go to tracking page | Yes | 4 |
| Access the setting page and open every button on the setting page | Yes | 27 |
| Sign out | Yes | 4 |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy to use it was tracker app ( 2)

2.) The tracker was simple and quick to use from start to finish. ( 1)

3.) I found that setting the distance of when my child needs within was easy to do. ( 2)

4.) I found that setting the curfew time of my child was easy to do. ( 2 )

5.) I found the icons used were appropriate and clear and easy to understand. ( 3 )

6.) The tracker has a pleasant colour scheme that did not hurt my eyes ( 2)

7.) I had no trouble reading the font size and type that was used in the tracker app ( 2 )

8.) The buttons used had the right size, it wasn’t too big or too small. ( 2 )

9.) The tracker ensured that I can have help when I am unsure of what to do. ( 5 )

10.) The tracker had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

# Appendix 10 – User testing for Kiosk

**User Profile**

|  |  |
| --- | --- |
| **Attributes** | **Values** |
| Gender | (Males),(Females) |
| Age | (11-20)(21-30),(31-40),(41-50),(51-60) |
| Occupation | (Any) |
| Computer Literacy | (None) |
| Disabilities | (Visual Impairment) |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy it was the interface of the kiosk ( 1 )

2.) The kiosk gave me all the options that I needed to create my personalised gift card (1 )

3.) The kiosk was simple and quick to use from start to finish. ( 2 )

4.) I found the labels/icons in the kiosk clear and concise. ( 2 )

5.) The kiosk has a pleasant colour scheme that did not hurt my eyes. (1 )

6.) I had no trouble reading the font size and type that was used in the kiosk ( 1 )

7.) The buttons used had the right size, it wasn’t too big or too small. (2 )

8.) The kiosk ensured that I can have help when I am unsure of what to do. ( 2 )

9.) The Kiosk had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken (seconds)** |
| Go to the help page | Yes | 4 |
| Begin creating a gift card by going to gift card selection | Yes | 3 |
| Go to the select amount page | Yes | 2 |
| Go to the select image page | Yes | 3 |
| Go to the type message page and type a message. | Yes | 10 |
| Pay for the personalised gift card | Yes | 6 |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy it was the interface of the kiosk ( 2 )

2.) The kiosk gave me all the options that I needed to create my personalised gift card (1 )

3.) The kiosk was simple and quick to use from start to finish. ( 1 )

4.) I found the labels/icons in the kiosk clear and concise. ( 4 )

5.) The kiosk has a pleasant colour scheme that did not hurt my eyes. (1 )

6.) I had no trouble reading the font size and type that was used in the kiosk ( 2 )

7.) The buttons used had the right size, it wasn’t too big or too small. (2 )

8.) The kiosk ensured that I can have help when I am unsure of what to do. ( 2 )

9.) The Kiosk had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken (seconds)** |
| Go to the help page | Yes | 5 |
| Begin creating a gift card by going to gift card selection | Yes | 4 |
| Go to the select amount page | Yes | 4 |
| Go to the select image page | Yes | 5 |
| Go to the type message page and type a message. | Yes | 14 |
| Pay for the personalised gift card | Yes | 8 |

Strongly agree strongly disagree

1 2 3 4 5

1.) Overall, I felt satisfied by how easy it was the interface of the kiosk ( 2 )

2.) The kiosk gave me all the options that I needed to create my personalised gift card (1)

3.) The kiosk was simple and quick to use from start to finish. ( 1 )

4.) I found the labels/icons in the kiosk clear and concise. (5 )

5.) The kiosk has a pleasant colour scheme that did not hurt my eyes. (1 )

6.) I had no trouble reading the font size and type that was used in the kiosk ( 1 )

7.) The buttons used had the right size, it wasn’t too big or too small. (3 )

8.) The kiosk ensured that I can have help when I am unsure of what to do. ( 1 )

9.) The Kiosk had all the functionalities and capabilities that I expected it to have ( 1 )

Any further comments:

|  |  |  |
| --- | --- | --- |
| **Task** | **Completed?** | **Time taken (seconds)** |
| Go to the help page | Yes | 3 |
| Begin creating a gift card by going to gift card selection | Yes | 5 |
| Go to the select amount page | Yes | 4 |
| Go to the select image page | Yes | 5 |
| Go to the type message page and type a message. | Yes | 7 |
| Pay for the personalised gift card | Yes | 8 |

# Tracker Application Evaluation

In this specification, I have been asked to create a smartphone app – this smartphone app needs to be a tracking app that allows parents to track down the location of their child and must meet several requirements; it must allow the parents to initialise the GPS on their child’s phone from their own phone, send the parent instant notification if the child goes outside a set perimeter or if the child is not home by a certain time.

The smartphone app that I have designed meets all the functionalities that the organisation wanted – to begin with, I have ensured that there is a log-in page before using the tracker. Although this was not in the requirement, I have added this feature to ensure that parents who are using this application feel safe when using the app as they know that the only person who can access details about their children is them, apart from when they give their credentials out.

The criteria that the organisation has asked when making the tracker app was to notify the parents if the child goes outside the perimeter or if they are not home by a certain time – as a solution to this I have created a home page in the application. The home page is where, the child’s details and the icons about the curfew time and distance are located. If the child is within the distance or curfew then a green thumb up will appear, however if not then a red button will appear indicating that the child is out of boundaries our past their curfew time. This solution is quite good, it uses one of the HCI principle of using colours to make it more effective. In this case, using red to show danger or a fault and green to show that everything is ok. However, having too many icons can cause information overload with the user making it a downside towards the tracker app as well.

Another criterion that the organisation asked was to allow parents to track down the location of their child, I have made a tracking page within the app as a solution to this, in the tracking page – a map with the perimeter and blinking dot should appear indicating where the child is in relation to the distance the parents want. Additionally, in the tracking page, the curfew time is also shown. This is a very good solution as it is showing the three components the user would want to locate and keep in track of their child; it has the perimeter, time, as well as where the child is currently. However, it should be considered that the map will update every 10 minutes or within the hour and it will not accurately pinpoint the location of the child this would mean that it might not be very useful to some parents in cases where their child is in imminent danger as they are not updated on where the child is situated at a moment’s time.

There are several good points that makes the smartphone tracking app - firstly, as mentioned above it follows all the specification that is wanted by the organisation, allows the user to track down the location of their child, it also tells the user if their child is not home by a certain time or if they go outside a perimeter. These are all functionalities that are desired to ensure that the tracking app is working properly as intended.

In addition, the log-in page is another positive thing about the tracker, as mentioned before it makes application a lot safer. This is because by needing an account malicious people will not be able to have access on location of children as it is specific to an account. Therefore, it is one of the positives as people will be satisfied with the feature and will use the app.

The tracker also successfully gives user feedback if they have done something wrong, following one of Nielson’s heuristics ‘visibility of system status’; this can be seen in the log-in page of the tracker – if the user gets their credential wrong then they are told to type it again. This is a good aspect of the tracker as it helps user when using the app by ensuring that they know what the user has done wrong.

One of the many positives of the tracker is how easy it was to add a curfew time and perimeter for a child. Users only needed to click the add new device button in the home page and they are sent to a page allowing them to change or add curfew times and perimeters. The fields of where you can input the details also offer quick erase buttons that make the whole process quicker and more efficient – the tracker tries to be user-friendly ensuring that all target audience can use it.

The colour scheme of the tracker is also another positive to it, this is because it is the right colour scheme that allows it to be accessible to most people, it has a light background that is not very intimidating or very harsh to the eyes. On the other hand, more improvements could also be made by using better colour scheme for the labels as some are more overpowering than others.

However, there are also a lot of negatives with the smartphone tracker app that I have designed and created. One of these faults would be that there’s no ‘help or documentation’ button. I only have a ‘contact us’ button. This would mean that if a user doesn’t know or is unsure about something in the application then they can’t access a help page what would help them find a solution quickly. Instead they would have to use the contact us page to message the creators what the problem is which can take days for a reply – this is not a very good solution as a user might have a very urgent matter that needs sorting out but they couldn’t there’s no help or documentation page to assist them when using the application. One way that this could have been improved is by adding another page in the setting page all about how to use the smart tracking app so that users who might not know how to use the app properly will have assistance when using the app.

Additionally, the tracking app that I have created only have internal notifications, when the user’s child is out of the perimeter or past their curfew time then it the red button will appear, however if the parent is not using the app then they will not be notified. This is obviously a terrible downside to the application as when it comes to a child’s safety, not having external notification could be critical- the child could be in danger but since the app relies on the user having it open it could cause dangerous effects. This could be improved by having external notifications such as the ones Facebook or Twitter have, additionally, a noise should also be created that bypasses the silent options for phones to make sure that the user knows that child is out of perimeter to ensure that they check up on them to make sure that they are safe.

Another downside of the tracker app that I created is the number of pages that it contains – there are too many random pages such as the account and about us page which is not useful and necessary. Removing these pages would make the program a lot less confusing to use and still have the same functionalities that the organisation wanted.

Overall, I found that the tracker was well create, it follows all the specification that was wanted by the organisation- meeting all the user needs that is expected. The design of the tracker was well thought out catering for every user and although there are negative aspects to the tracker, there are several ways that it can be improved upon ensuring that it is better and easier to use in future creations.

# Gift Card Kiosk Evaluation

In the specification, I have also been asked to create a gift card kiosk that people can use. This kiosk must allow the users to personalise their gift card and needs to meet the following requirements; it allows the user to input using keyboard and the output is printed on the screen, allows them to select a gift card type, image, and amount. The kiosk should also allow the user to type a message and the payment method must be chip and pin method.

The kiosk that I have designed meets all the functionalities that the organisation wanted – to start off, the kiosk has a gift card selection page, the gift card selection page allows the user to select from 8 different gift card which I find sufficient and gives the user a variety of options to choose from. After the gift card selection page, the user is then sent to the select amount page, this page allows the user to select the amount that they want the gift card to be. I have given the user 5 different options varying from £5-£100, this way the user is not limited to the gift card that they can buy.

Another criterion that was asked by organisation to be added to the kiosk was to allow the user to select their image. As a solution to this, I have created a page that allows user to select an image, however, it should be considered that this page is optional to allow the kiosk to be multi-purpose as some might just want to get a gift card that isn’t personalised. The images can be used in the page can found by browsing through the internet, uploading it from their devices or using the camera provided to take their photo. I found that this design will be a very good addition to the kiosk as it will allow the user to not only find random images that they can add from the internet, but they can also be innovative with how they want to create their gift card and provide them with a camera that they could use on the spot.

Lastly, the organisation wanted the kiosk to allow the user to type a message in the gift card, for this I created another page that the user can access – this is another optional page but it allows the user to type their message with a 40-character limit, it is limited to 40 so that the message written can fit into the gift card. For the payment method, the organisation specifically wanted it to be a chip and pin method, as a solution for this, I have just asked for the user to enter their card through the card reader and then the kiosk will ask or them to enter their pin – once the pin has been verified then a message will then appear telling them that their gift card is printing.

There are several things that makes the kiosk that I have created very well – to begin with, as mentioned above it follows all the specification that is wanted by the organisation, it allows the user to select a gift card type and amount, select an image and type a message. These are all functionalities that are desired to ensure that the kiosk is working properly as intended.

In addition to this, I have also added a help and documentation button on of Nielson’s heuristics, another positive to the kiosk. By having this help button, it enables users who might not know how to use the kiosk to gain assistance from the machine itself without needing anybody to tell them what to do, the help page most of the questions that they need to ask as in the help page, a ‘how to’ information as well as frequently asked questions are all there. This ensures that all the users will have satisfaction when using the final product and there is no confusion when using the kiosk.

Another positive about the kiosk that I created was the colour scheme that I used. Based on the user tracker questionnaire that I have created, most people found the colour pleasant - I also found it to have a very good contrast and it wasn’t harsh on the eyes. Not only is this pleasant, but having a light orange colour allowed the kiosk to be used by people with disabilities such as dyslexia who have troubles reading in dark harsh background. The font size and type also had very good readability, as proof of this, most of the results in my questionnaire found that they could read the text clearly and easily - using ‘Verdana’ and font size ‘12’ made the kiosk professional as I’ve wanted to be – this positive aspect is an achievement following one of the common HCI principles of colours.

Furthermore, all the pages have clear labels on what they are, for example the shopping basket page clearly tells the user that it is the shopping basket, this ensures that there is no confusion between the machine and the user and having larger text for the label than the rest of the page makes sure that it captures the user’s attention and it allows it to be accessible to all.

Moreover, the ‘shopping basket’ page that I added as part of the kiosk is a positive to the HCI as I thought it will speed up the buying process and help users get as many gift card as they want. As opposed to having to repeat the whole buying process again, users only need to select the quantity in the shopping basket page and the same gift card can be printed twice – this saves the user a lot of time especially when they are about shopping and they might be in a hurry. Thus, I thought that this addition is a very helpful yet simple addition that made the overall kiosk user-friendly and better to use.

However, there are also negatives to the kiosk that I have created, one of these was the ‘home button’ that was on every page. Although the icon was a home button, there wasn’t a home page in the kiosk – this could easily confuse a lot of users and could have negative impact on their overall experience. This could easily prevent by changing the icons to a more suitable icon – as opposed to having a home icon, a ‘start page’ button or ‘reset’ would have sufficed as the purpose of that button was to go back to the start page just in case the user wanted to restart their creation of the gift card or just decided to not buy a gift card at all.

Another negative that I found was that the buttons side menu buttons and the buttons on the page itself looked very similar. For example, the select amount page’s buttons from ‘£5’ – ‘£100’ are similar to the clickable side menu buttons. There is no variation between the two and so users could easily mistake the side buttons– this is downside to the kiosk as users could mistakenly click on the side buttons when they do not intend to and would therefore send them to that page. This would easily annoy a lot of users and prevent them from having a good experience when using the kiosk. One way that this could be prevent is by ensuring that there is a distinct difference between the two, having a different scheme for the side buttons such as having a lighter shade of grey as the background would have improved the kiosk making it easier to use.

Moreover, the side menu and the main page doesn’t have a barrier that separates the two, the kiosk looks as if all the pages are one this is a flaw in the design as there is no clear line on where the main page is and where the side menus are, users might think that the side buttons are options – having a line that separates that two could be a drastic improvement that will help in differentiating which one is the main page and which side is the side menu.

Overall, I found the kiosk that I have created to be well created, it follows all the specification that was wanted by the organisation- meeting all the user needs that is expected. The design of the kiosk was well thought out catering for every user and although there are negative aspects to the kiosk, there are several ways that it can be improved upon ensuring that it is better and easier to use in future creations.