

ROBERT GORDON UNIVERSITY

CM4110 – Human Computer Interaction

Coursework Part 2

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3/24/2021

This document contains the practical designs, the scenarios, the human evaluation, the reflection on the scenarios, evaluations and the storyboards tasks of the coursework part 2 for the module called CM4110 Human Computer Interaction.

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1. Practical Designs

Design One

Widgets

- The widgets of the design one vary when it comes to their size in order to fit their environment and to maximize the addition of other graphical elements,
- The user profile can be accessed via a toolbar which is situated at the top of the mobile application, the access of the user profile will be done via a button which will toggle a side menu on button press, this was done in order to allow the user to have access to the account information at all times without the need to access a specific section of the mobile application in order to reduce complexity,

Validation

- This system will validate the user input during the registration process, an error message being displayed under the text field using a dark shade of the purple colour to inform the user of possible errors.

Navigation

- The design one of the mobile application presents a bottom navigation menu containing four buttons which will allow the replacement of the main content of the mobile application with the appropriate fragments on button press, the bottom navigation menu will be visible at all time by the user, this approach will make the utilisation of the application to be done in easy manner as it helps with cognitive conditions and it reduces complexity.

Colour

- The design one of the mobile application was created using a dark shade of the purple colour as the main colour for all the graphical elements of the application with minimal to non-existent colour shades of green or red in order to allow the mobile application to be used by people with colour blind disabilities.

Design Two

Navigation


- The design two of the mobile application does not follow the same approach as the design one when it comes to the bottom navigation menu being visible at all times by the user, instead the design two presents a main activity with six options represented in the form of buttons which will allow the navigation to the appropriate fragment on button press, this approach will significantly reduce the complexity of the application.

Colour

- The design two of the mobile application was created using a dark shade of the green colour as the main colour for all the graphical elements of the mobile application associated with the white colour for the text of the widgets, this was done in order to allow the mobile application to be used by people with colour blind disabilities.

1.1 Design 1

COVID NULLUS



← Log In

Email

1905367@rgu.ac.uk

Error message

Password

👁

Error message

Forgotten password?

LOG IN

← Register

First Name

Darie-Dragos

Error message

Last Name

Mitoiu

Error message

Email

1905367@rgu.ac.uk

Error message

Password

👁

Error message

Confirm Password

👁

Error message

Register

← Register Confirmation

Account created successfully,
press continue to log in...

Continue

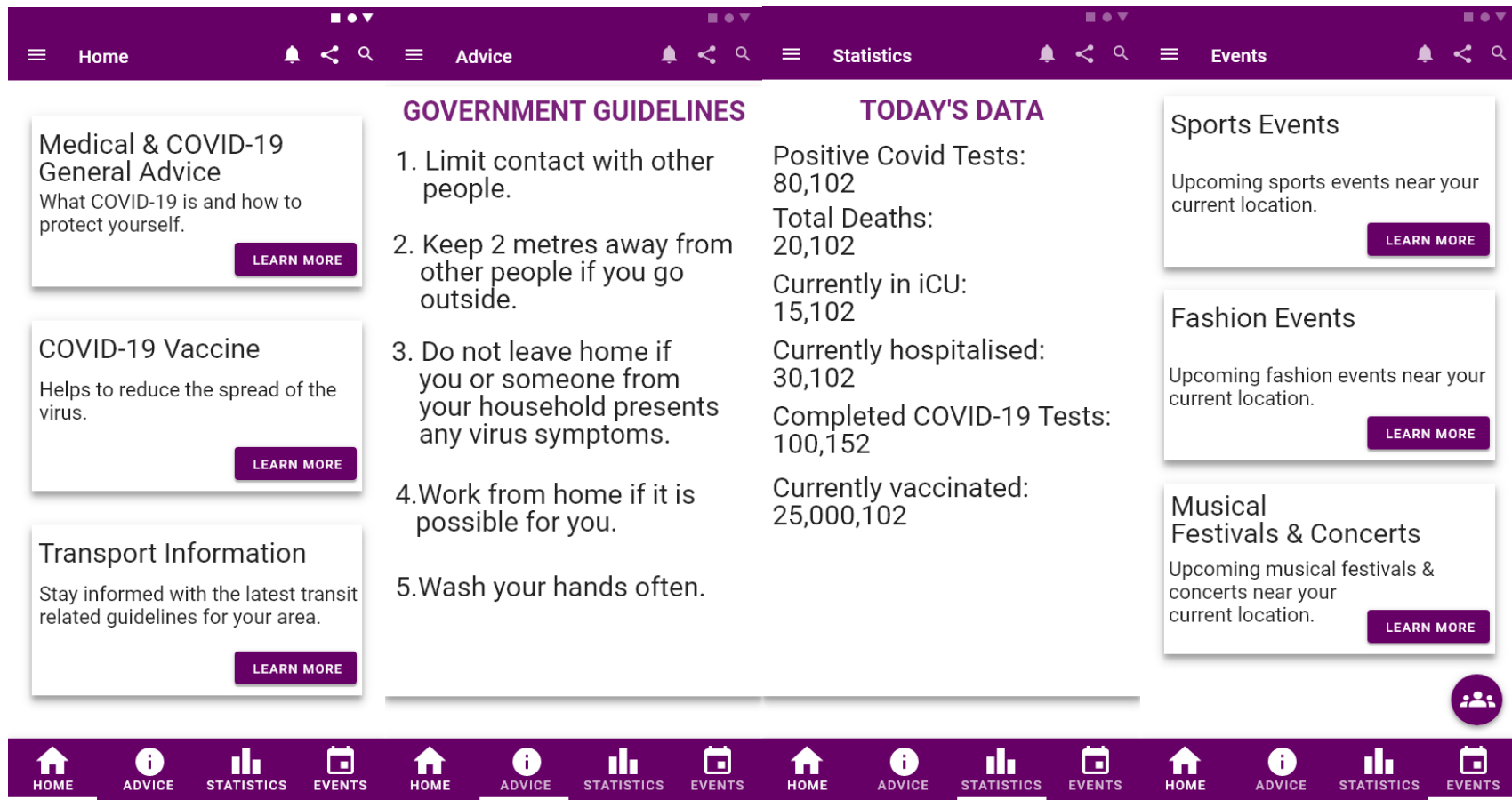
← Recover Account

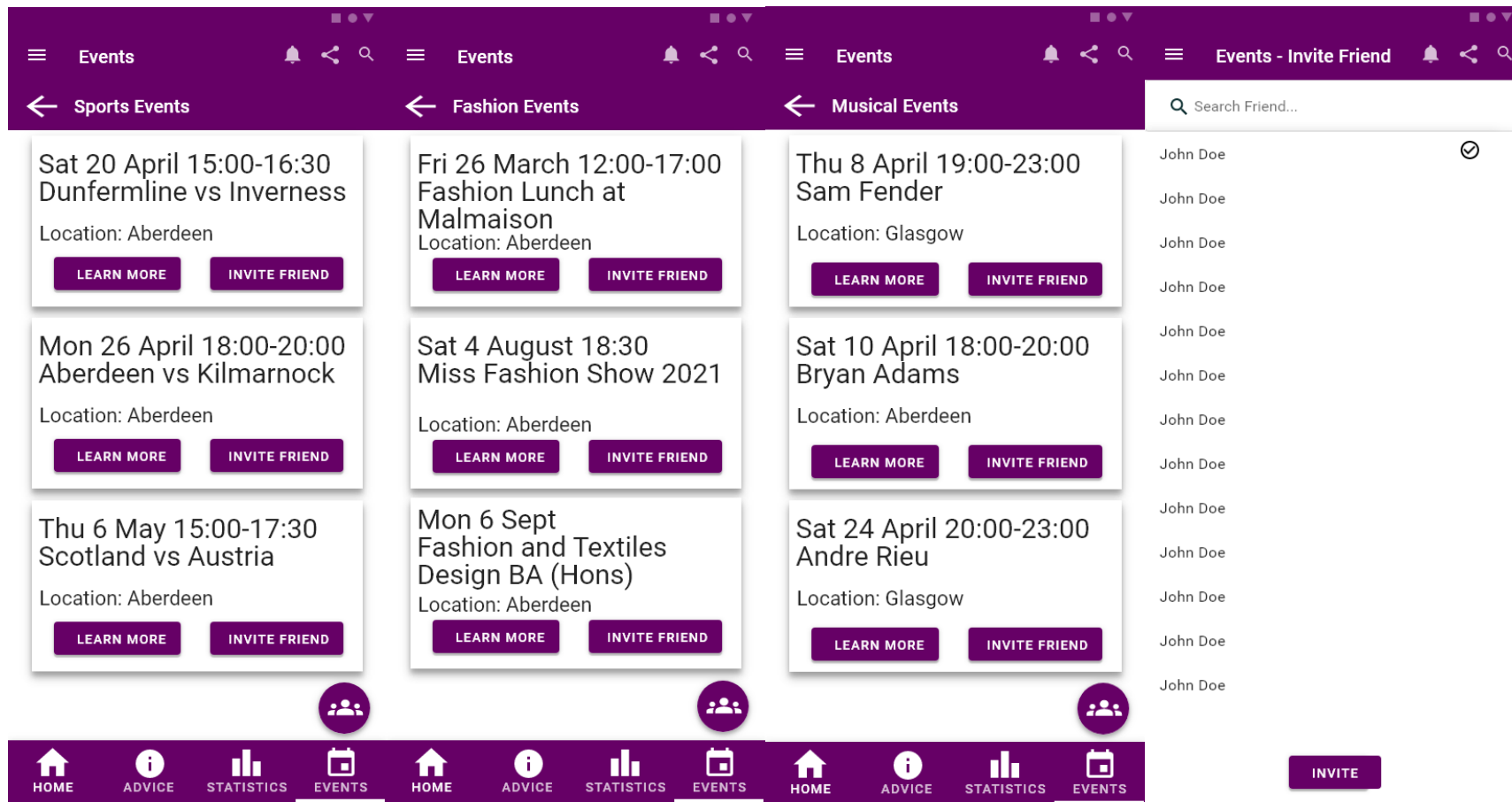
Email

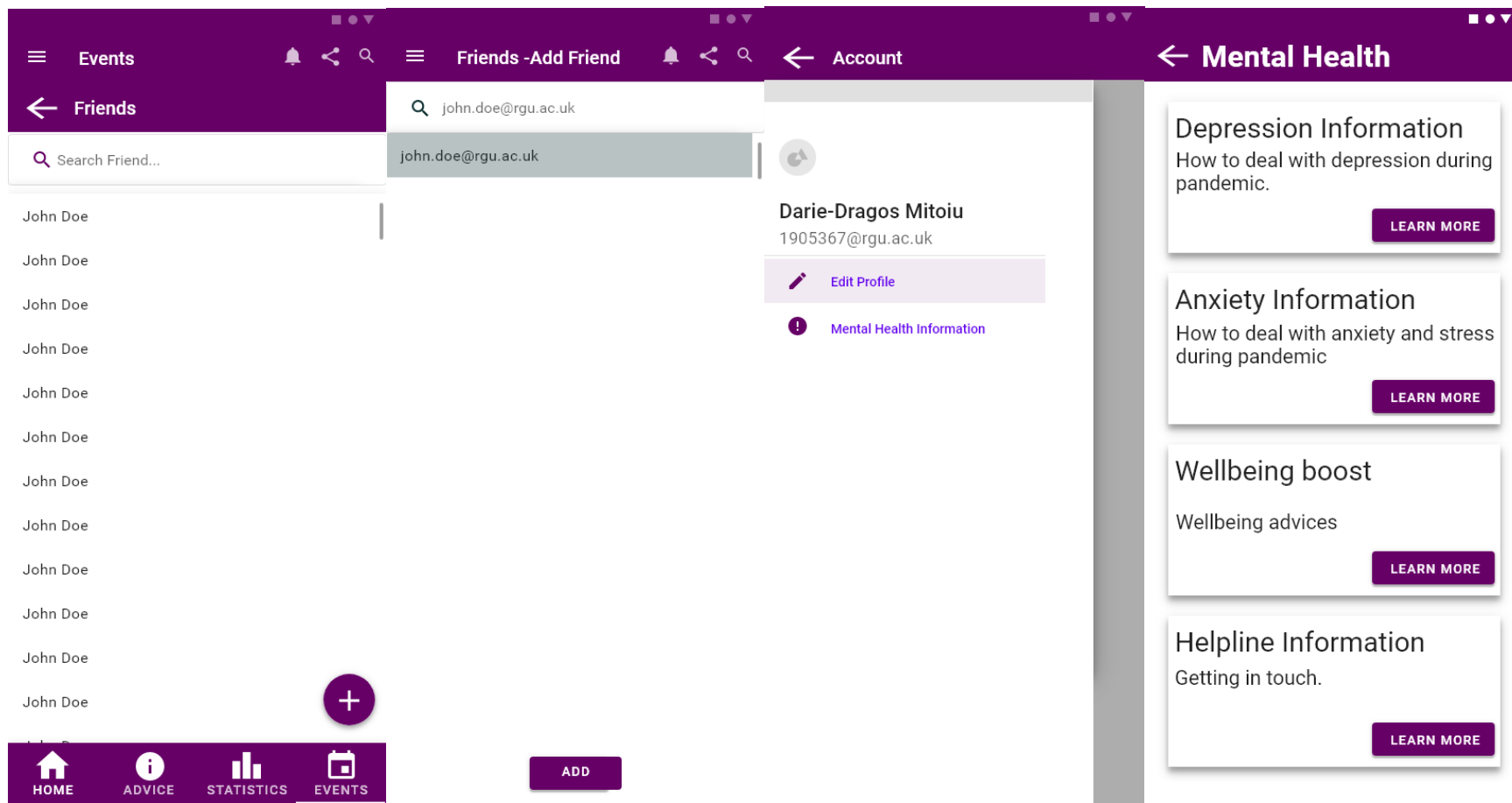
1905367@rgu.ac.uk

Error message

Recover








1.2 Design 2

COVID NULLUS



← Log In

Email

1905367@rgu.ac.uk

Error message

Password

Error message

Forgotten password?

LOG IN

← Register

First Name

Darie-Dragos

Error message

Last Name

Mitoiu

Error message

Email

1905367@rgu.ac.uk

Error message

Password

Error message

Confirm Password

Error message

Register

← Register Confirmation

Account created successfully,
press continue to log in...

Continue

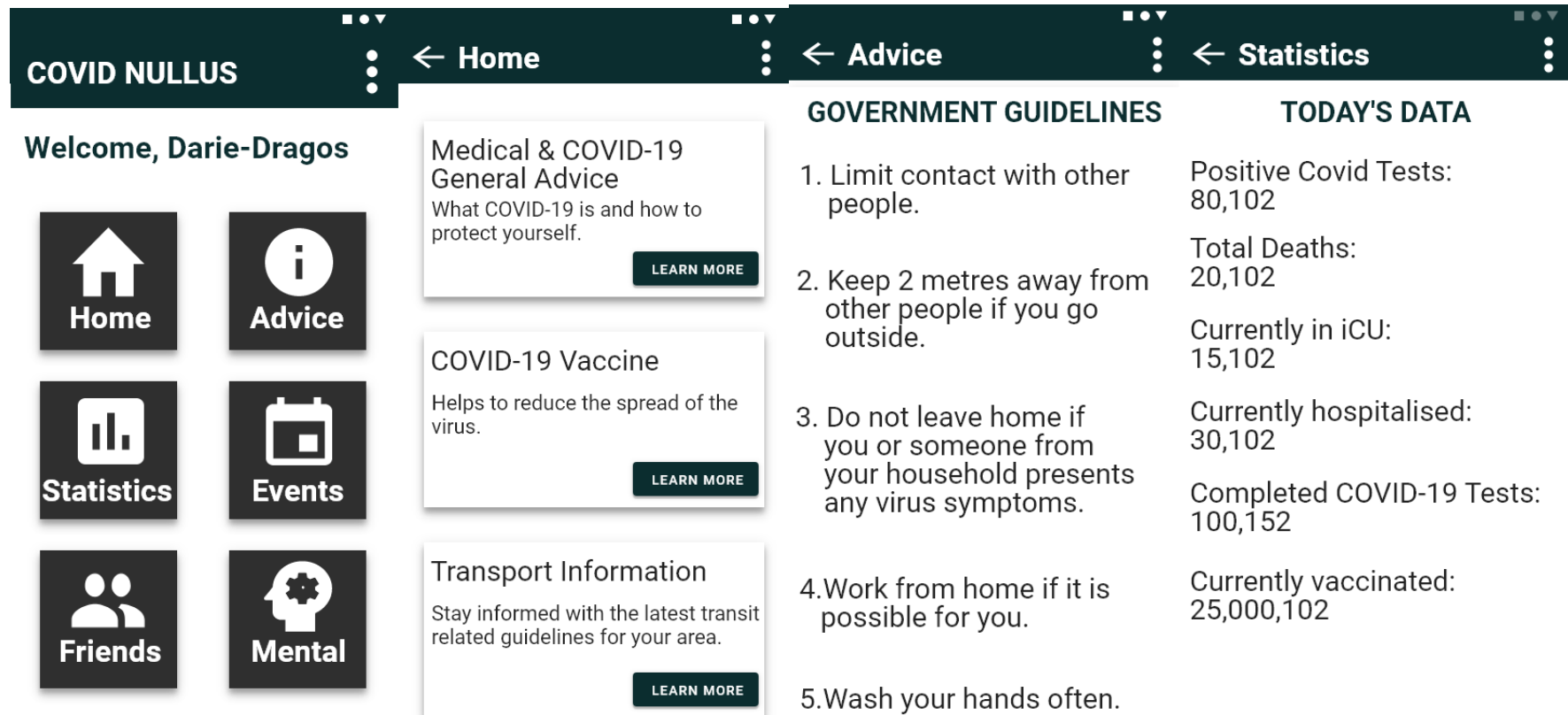
← Recover Account

Email

1905367@rgu.ac.uk

Error message

Recover



← Events

⋮

← Sports Events

⋮

← Fashion Events

⋮

← Musical Events

⋮

Sports Events

Upcoming sports events near your current location.

LEARN MORE

Sat 20 April 15:00-16:30

Dunfermline vs Inverness

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Fri 26 March 12:00-17:00

Fashion Lunch at Malmaison

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Thu 8 April 19:00-23:00

Sam Fender

Location: Glasgow

LEARN MORE

INVITE FRIEND

Fashion Events

Upcoming fashion events near your current location.

LEARN MORE

Mon 26 April 18:00-20:00

Aberdeen vs Kilmarnock

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Sat 4 August 18:30

Miss Fashion Show 2021

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Sat 10 April 18:00-20:00

Bryan Adams

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Musical Festivals & Concerts

Upcoming musical festivals & concerts near your current location.

LEARN MORE

Thu 6 May 15:00-17:30

Scotland vs Austria

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Mon 6 Sept

Fashion and Textiles Design BA (Hons)

Location: Aberdeen

LEARN MORE

INVITE FRIEND

Sat 24 April 20:00-23:00

Andre Rieu

Location: Glasgow

LEARN MORE

INVITE FRIEND

Friends

⋮

← Add Friend

⋮

🔍 Search Friend...

john.doe@rgu.ac.uk

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

REMOVE

ADD

← Invite friend to event

⋮

🔍 Search Friend...

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

John Doe

INVITE

← Mental Health

⋮

Depression Information

How to deal with depression during pandemic.

LEARN MORE

Anxiety Information

How to deal with anxiety and stress during pandemic

LEARN MORE

Wellbeing boost

Wellbeing advices

LEARN MORE

Helpline Information

Getting in touch.

LEARN MORE

2. Scenarios

2.1 Design One

2.1.1 Oliver Jones – University Student

Oliver is a twenty-two-year-old, medical student who does his practice sessions at the largest hospital in the city and on a late Friday afternoon there has been a significant decrease in the COVID-19 patients arriving at the hospital. Dr. Vlad Ionescu, a male doctor qualified in respiratory illnesses, has asked the young student to assist a few of the patients that just arrived as he is just finishing his shift. Then, Oliver has taken one of the patients that just arrived to one of the rooms designed for respiratory illnesses to ask some routine questions. Some of these questions would be what other medical conditions the patient presents and what medication is taking at the moment of hospitalisation. Once this is done, Oliver waits until the ward doctor Dr. Williams arrives at the patient's room, now that the patient is in safe hands, Oliver is handing in the questionnaire that was undertaken by the patient to the ward doctor. Oliver's shift is approaching its end and he is preparing to leave the hospital to go home. Before doing so, he is surprised by the low number of patients at the hospital and he logs in using his mobile application to check the progress made by the vaccination programme. To his surprise, the programme has reached half of the country's adult population, now the low number of patients admitted to the hospital can be explained. Just from logging into the mobile application and checking the statistics section from the bottom navigation menu, Oliver was able to find out the promising results of the vaccination programme both in a data manner and in a communicate from the government which was seen on the advice section of the application as the social restrictions have been reduced. Despite having Deuteranomaly, Oliver was able to use the mobile application without any problems as the dark shade of purple helped him to use the application without encountering any visual problems.

2.1.2 Jacob Davies – Small Business Owner

Jacob is a thirty-year-old, small business owner of a catering business in the centre of the city. He has adapted his business from a mostly in person type of business to complete online ordering and delivery type of business and he knows some of the social restrictions caused by the COVID-19 pandemic will be lifted in the next weeks. On a Tuesday morning, Jacob decides to prepare again for the in person type of business that he used to run. He goes to his catering local and starts to arrange the chairs and tables according to the government guidelines. He knows that these guidelines are most likely to have changed and because of this he signs up to his new mobile application and logs in to get the latest instructions from the government and he gets the information wanted by making use of the "advice" section from the bottom navigation menu of the mobile application. He notices that the two metres guideline is still in place and he arranges the local objects accordingly for the customers.

2.1.3 Sophie Roberts – Designer

Sophie is a self-employed clothing designer. After one year of constant lockdowns and work from home without any social activity, Sophie's mental health has deteriorated. She needs some advice on how to deal with anxiety and stress. In order to get some advice for her situation, she logs in into the mobile application and toggles the side menu using the left button from the top toolbar and accesses the mental health section in order to get some advice to cope with her stress situation. She is presented with four options to choose from and she chooses the anxiety and stress option. The amount of information offered on this topic surprises her.

2.2 Design Two

2.2.1 Oliver Jones – University Student

Oliver Jones is a medical student which had to study from home for one year due to constant lockdowns and social restrictions caused by the COVID-19 pandemic, at home he is using his PC to attend his online classes and his mobile phone to check his emails during the day. He is very keen to know when the social restrictions will be reduced and the University on-campus activity will be resumed in order to continue his studies in a normal manner, as the current situation may have disadvantaged him due to the complete online activity required by the University. His on person full-time course has become a distance learning course. In order to find out the latest guidelines offered by the government which will ultimately give him an insight of what may come next from the university related to on-campus activity, he logs in into his mobile application and he uses the main activity menu to navigate to the advice section by clicking the “advice” button in order to visualise a minimal view of the current government guidelines which will give him an idea of how soon the university may send a notification regarding to the on-campus activity. The complete orientation of the mobile application towards a single dark shade of the green colour makes the utilisation of the application by Oliver to be done in a difficult manner as he is not able to use it without encountering some difficulties due to his colour-blind condition, even though the application uses a very dark shade of the green colour, his colour-blind condition called Deuteranomaly which makes green look more red causes him some minor visual problems.

2.2.2 Jacob Davies – Small Business Owner

Jacob Davies is a thirty-year old business owner of a small coffee shop, he enjoys going out once a month to a music festival or concert, he usually likes to go to these events by himself. It is Friday night and it is almost the end of the work schedule, Jacob closes his coffee shop and he decides to look for some music festival or concert which he can attend to, he logs in into his mobile application he chooses the “events” option from the main activity of the mobile application and then he navigates to the musical festivals and concerts section where he sees there is no musical festival at the moment in his city, but he notices there is an event the following day on Saturday night and he decides to go to that musical festival where Bryan Adams will perform on Saturday 10 of April at 18:00-20:00. Jacob has a high technology level when it comes to the mobile applications, but nevertheless he is surprised of the small number of actions required to get the information requested.

2.2.3 Sophie Roberts – Designer

Sophie is a thirty-five-year-old clothing designer, she enjoys collective gatherings of all kind but she specifically prefers going out to fashion events with her friends or co-workers a couple of times per month as these events are related to her profession and help her to stay informed with the latest trends in the industry and to keep her work to the highest standards as possible as she gets to know her competition. It is Saturday afternoon and she decides to look for some events she can attend to, she logs in into her mobile application, she chooses the events section from the main activity of the application and then the main content of the application it is replaced with with three categories of events, she chooses the fashion section from the events activity or fragment, as this section presents interest to her. She sees there is an event called “MISS Fashion” on 6 September, she then presses the invite friend button in order to send a notification to her assistant called Lucy, the friends list it is opened and she enters the email address of her co-worked Lucy and presses the invite button.

3. Human Evaluation

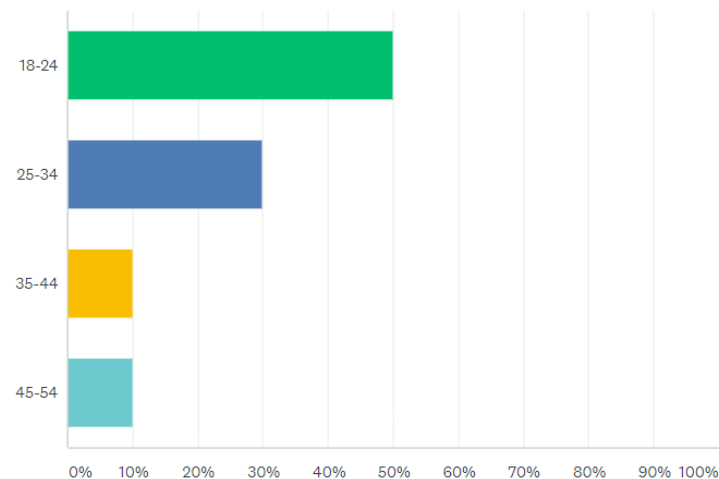
In order to gather a reasonable number of responses from human evaluators, a probabilistic random sampling was performed using ten candidates which were required to undertake an online survey. At the moment of results analysis only ten candidates have successfully completed the survey, this method has given the chance to every member of a population to be selected in order to complete the survey.

The online survey was created with a specific goal in mind which is to gather data related to the visual aspect and functional aspect of two mobile applications designs which tend to solve the same problem, yet the mobile applications present different characteristics.

When it comes to group of ages resulted after the completion of the survey, it can be noticed that the survey it was predominantly completed by young candidates, this group representing approximately 70% of the candidates that have undertaken the online survey.

How old are you?

Answered: 10 Skipped: 0



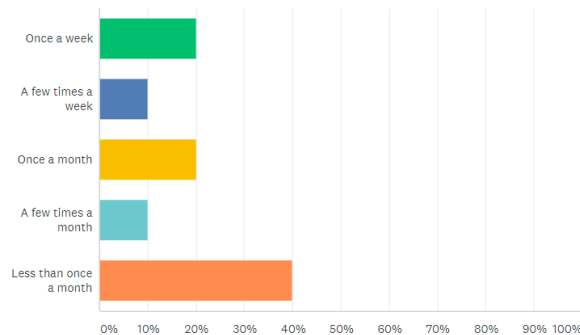
ANSWER CHOICES	RESPONSES
18-24	50.00% 5
25-34	30.00% 3
35-44	10.00% 1
45-54	10.00% 1
TOTAL	10

The results presented in the image above could be interpreted as the majority of the candidates that have undertaken the online survey are most likely still in Education as their age implies so, nevertheless their age it is good indication that the responses to the survey questions will have some sort of importance to the study in cause as the mobile application designs are specifically aimed at this group of people.

In order to evaluate the collective gatherings or events feature of both designs of the mobile application, the candidates were asked to give a specific response on their preference related to the attendance to collective gatherings events, in the image presented below it can be noticed, that the predominant preference it is the attendance to a collective gathering event to a period of time less than once a month with a value of 40%. Despite a low number of attendances preferred by the candidates to collective gatherings events, the mobile application may still present some interest to the candidates or future users of the mobile application.

How often do you go to collective gathering events?

Answered: 10 Skipped: 0

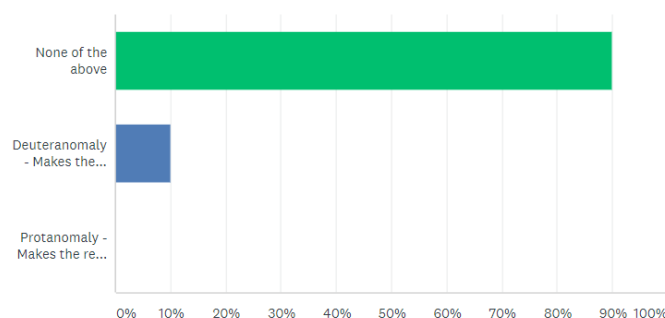


ANSWER CHOICES	RESPONSES
Once a week	20.00% 2
A few times a week	10.00% 1
Once a month	20.00% 2
A few times a month	10.00% 1
Less than once a month	40.00% 4
TOTAL	10

As one the designs of the mobile application uses a dark shade of the green colour, this automatically will require a question related to colour blind conditions that may create difficulties in the utilisation of the design in practice, in the image presented below most candidates did not present a colour-blind condition, however one of the candidates assumes he has the condition called Deuteranomaly, this must be considered when choosing the proper design.

Do you have any of the following colour blind conditions?

Answered: 10 Skipped: 0

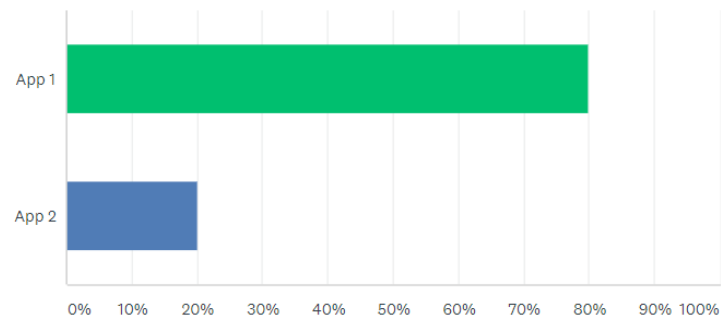


ANSWER CHOICES	RESPONSES
None of the above	90.00% 9
Deuteranomaly - Makes the green colour look more like red	10.00% 1
Protanomaly - Makes the red colour look more like green	0.00% 0
Total Respondents: 10	

The most significant difference between the two mobile application designs presented in the survey is because it is the navigation system that each design is using in order to navigate to the appropriate fragments or activities. The first mobile application design is using a bottom navigation which can be visualised by the user at all time, the second design presents an activity with a centralised number of widgets or buttons that will allow the navigation to the appropriate fragment or activity, in the image below it can be noticed that most candidates presented a significant interest towards the first design of the application.

Which App seems to present a simpler navigation system?

Answered: 10 Skipped: 0

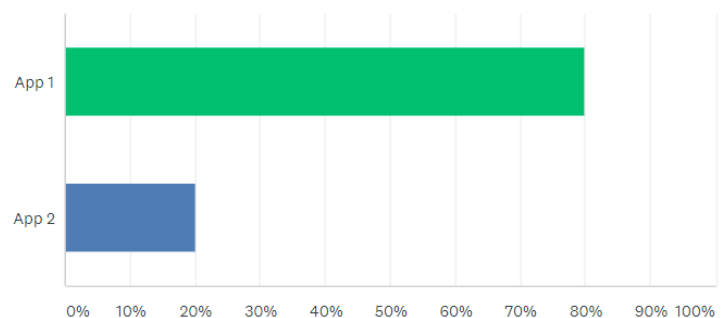


ANSWER CHOICES	RESPONSES
App 1	80.00% 8
App 2	20.00% 2
TOTAL	10

Considering the overall layout and features of both designs of the mobile applications, in the image presented below it can be noticed that the majority of the candidates of the online survey have presented a significant interest towards the first design of the application, this design being the design created using a bottom navigation menu and a dark shade of purple.

Based on layout and features which app do you prefer?

Answered: 10 Skipped: 0



ANSWER CHOICES	RESPONSES
App 1	80.00% 8
App 2	20.00% 2
TOTAL	10

4. Reflection of the Scenarios & Evaluations

In order to decide what design is the most appealing to a significant number of users of the two practical designs that were presented in the previous sections, an analysis of the scenarios and the human evaluation must be performed.


The scenarios related to the first design of the mobile application are mostly successful in satisfying the users or possible customers, as the application presents a complete interval of usability for multiple groups of people, including people with visual impairment conditions. It is clear from the scenarios of the first design of the mobile application that even the user with the colour-blind conditions called Deuteranomaly which makes the green colour look more like the red colour was able to use the design one of the mobile application as the design one uses a predominantly purple colour for the most of the graphical elements such as buttons, other widgets and menus. On the other hand, the second design of the mobile application has presented a slightly lower satisfaction response from the users or possible customers in the scenarios for the design two of the mobile application, despite having a more intuitive navigation system, as there are only specific widgets that will allow for the navigation to happen instead of the bottom navigation menu presented on the previous design, the design two of the mobile application may create some difficulties to people with visual impairment conditions such as the colour blind condition called Deuteranomaly, even though the colour used for the design it is a dark shade of the green colour, using this colour it is a assumed risk when it comes to the difficulties some people may encounter when using the mobile application.

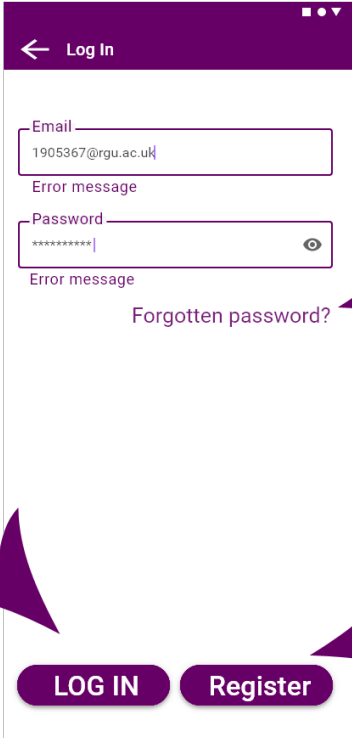
The human evaluation presented for both design one and design two of the mobile application has been created using candidates with a predominantly young age, this study has shown that when it comes to the visual aspect and functional aspect of both design one and design two of the mobile application there was a significant preference by the online survey candidates towards the first design of the mobile application, this can be noticed from multiple responses given by the candidates, these questions are related to visual impairment, navigation system, layout and features. From the simple fact that some candidates may present some visual impairment conditions such as Deuteranomaly, this simple fact will give an advantage to the first design of the mobile application as the colours used for this design are predominantly purple and white, this aspect eliminates any difficulty that may be encountered by a possible colour-blind user or customer comparing to the design two of the mobile application where the predominant colours used for this design are a dark shade of green and white. The navigation system of the design one may not be as intuitive as the design two of the mobile application, yet there it seems to be a significant preference towards this navigation system by the online survey candidates instead of the navigation system of the design two which uses widgets as a method of navigation comparing to the bottom navigation menu of the design one. When it comes to the layout and features, there is not that much of a difference between the design one and design two of the mobile application, yet some layout and position differences are still in place, however, most online survey candidates seem to present a significant preference towards the layout and features of the design one of the mobile application with a remarkably values of 80% comparing to only 20% for the second layout and features of design two.

It is safe to say that after the analysis of the scenarios of both design one and design two of the mobile application in addition with the analysis of the human evaluation elements of the same designs resulted from an online survey that the design one it is significantly superior to the design two from multiple points of view and it should be used or taken forward for implementation.

5. Storyboards

5.1 Authentication System and Main Application

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	5
Description	Initial Activity		
Links from scenes	Not Applicable		
Links to scenes	Log In Activity (Scene 2)		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><p>Navigate to log in Activity</p></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the “Log In” button.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are a label for the name of the application, a centralized image and a button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	2	of	5
Description	Log In Activity		
Links from scenes	Initial Activity		
Links to scenes	Register Activity, Recover Account Activity, Main Application Activity (Scene 3, 4, 5)		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Back</div><div>Navigate to Main Application</div><div>Navigate to Recover Activity</div><div>Navigate to Register Activity</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the “Log In” button.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are text fields associated with a label for the name of the field, a label which links to the recover account activity and two buttons.			

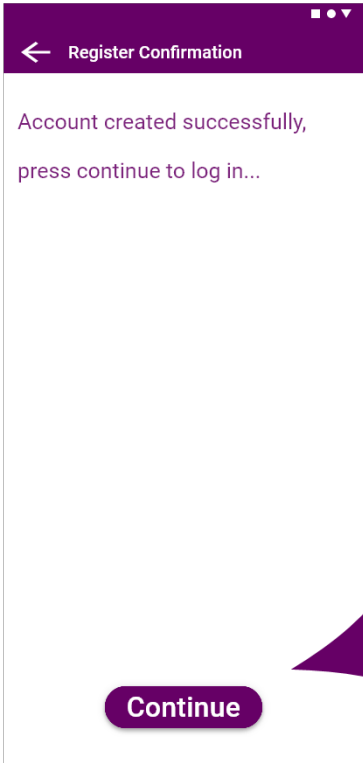
Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	3	of	5
Description	Register Activity		
Links from scenes	Log In Activity		
Links to scenes	Register Confirmation Activity (Scene 4)		

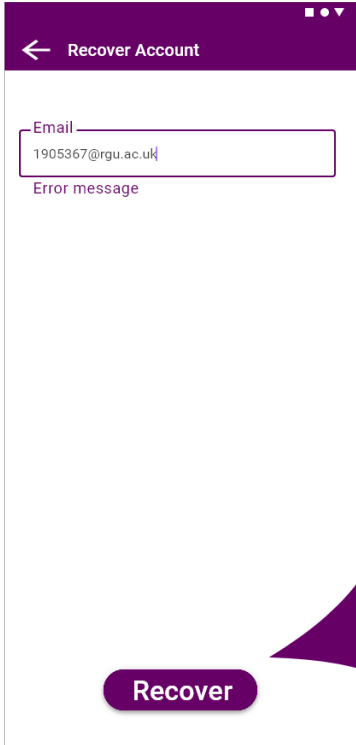
Functionality/Interactivity (Sketch, Screenshot and annotate)

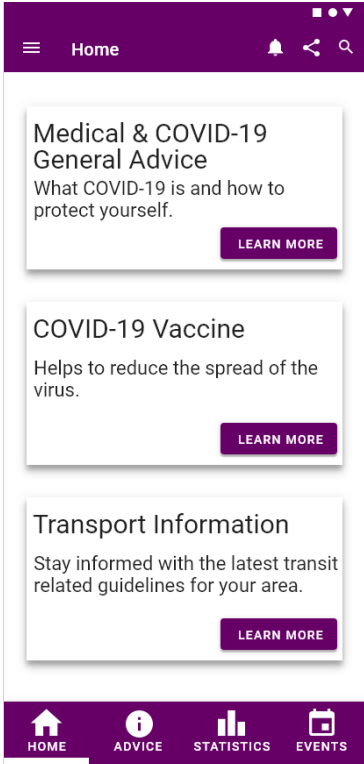
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.
Text attributes	The Roboto type of font is used for this activity.
Audio files included	Not Applicable
Video files included	Not Applicable
Still files included	Not Applicable
Animation clips included	A Slide-Right animation it is present when switching the activity using the "Register" button.

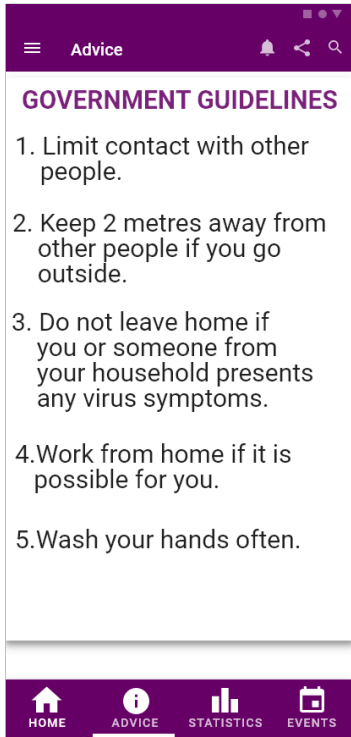
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms

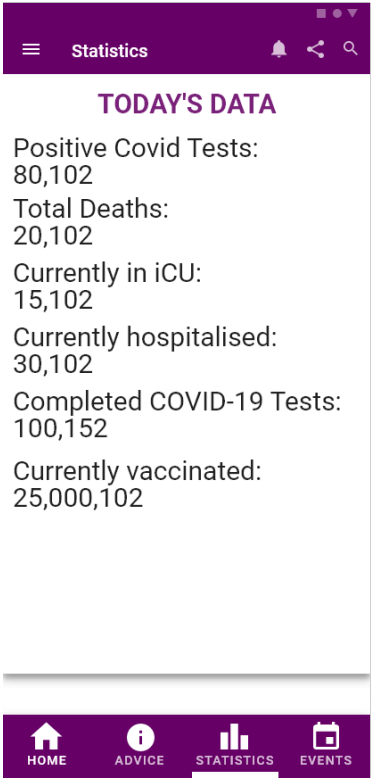
The interface elements of this screen are text fields associated with a label for the name of the field and a label for the error message and a register button.

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	4	of	5
Description	Register Confirmation Activity		
Links from scenes	Register Activity		
Links to scenes	Log In Activity (Scene 2)		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Back →</div><div></div><div>Navigate to Log In Activity</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the “Continue” button.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are a label for the registration confirmation and a register button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	5	of	5
Description	Recover Account Activity		
Links from scenes	Log In Activity		
Links to scenes	Log In Activity (Scene 2)		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Back →</div><div></div><div>Navigate to Log In Activity</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the “Register” button.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are a text fields associated with a label for the name of the field and a label for the error message and a recover button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	4
Description	Home Fragment		
Links from scenes	Log In Activity		
Links to scenes	N/A		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div><div>Menu Toggle</div><div>Home Button Selected</div></div><div></div><div><div>Information</div></div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the fragment using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are three panels associated with a label for the name of the section and a learn more button and a bottom navigation menu.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	2	of	4
Description	Advice Fragment		
Links from scenes	Not Applicable		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div><div>Menu Toggle</div><div>Advice Button Selected</div></div><div></div><div><div>Information</div></div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the fragment using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels for the informative elements of a single panel retrieved from an API.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	3	of	4
Description	Statistics Fragment		
Links from scenes	Not Applicable		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div><div>Menu Toggle</div><div>Statistics Button Selected</div></div><div>Information</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the fragment using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels for the data retrieved from an API.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	4	of	4
Description	Events Fragment		
Links from scenes	Not Applicable		
Links to scenes	Not Applicable		

Functionality/Interactivity (Sketch, Screenshot and annotate)

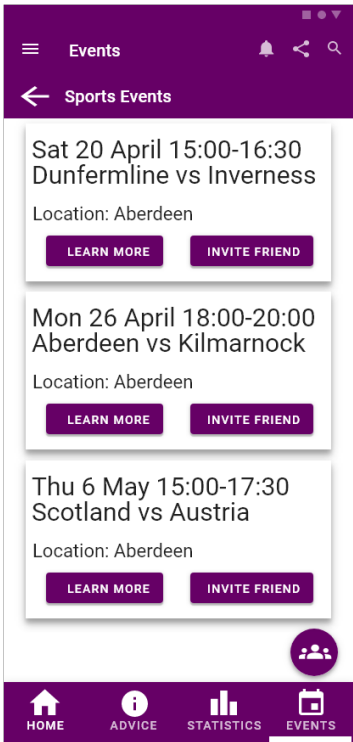
Menu Toggle →

Events Button Selected →

Categories ←

Friends ←

Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.
Text attributes	The Roboto type of font is used for this activity.
Audio files included	Not Applicable
Video files included	Not Applicable
Still files included	Not Applicable
Animation clips included	A Slide-Right animation it is present when switching the fragment using the bottom navigation buttons.
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms	
The interface elements of this screen are labels associated with panels and a learn more button for each panel.	

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	3
Description	Sports Events		
Links from scenes	Events Fragment		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Menu Toggle</div><div></div><div><div>Event Info & Invite Friend</div><div>Friends</div></div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels associated with panels, a learn more button for each panel and an invite friend button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	2	of	3
Description	Fashion Events		
Links from scenes	Events Fragment		
Links to scenes	Not Applicable		

Functionality/Interactivity (Sketch, Screenshot and annotate)

The screenshot shows a mobile application interface with a dark purple theme. At the top, there's a header bar with a hamburger menu icon, the title 'Events', and icons for notifications, share, and search. Below this is a sub-header 'Fashion Events'. The main content area lists three events:

- Event 1:** 'Fri 26 March 12:00-17:00 Fashion Lunch at Malmaison' with location 'Aberdeen'. It has 'LEARN MORE' and 'INVITE FRIEND' buttons.
- Event 2:** 'Sat 4 August 18:30 Miss Fashion Show 2021' with location 'Aberdeen'. It has 'LEARN MORE' and 'INVITE FRIEND' buttons.
- Event 3:** 'Mon 6 Sept Fashion and Textiles Design BA (Hons)' with location 'Aberdeen'. It has 'LEARN MORE' and 'INVITE FRIEND' buttons.

 At the bottom, there's a navigation bar with icons for HOME, ADVICE, STATISTICS, and EVENTS. A purple circle with a group of people icon is positioned above the EVENTS button.
 Annotations with purple arrows point to:

- Menu Toggle:** Points to the hamburger menu icon in the top header.
- Event Info & Invite Friend:** Points to the event details and buttons for the first event.
- Friends:** Points to the group of people icon above the bottom navigation bar.

Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.
Text attributes	The Roboto type of font is used for this activity.
Audio files included	Not Applicable
Video files included	Not Applicable
Still files included	Not Applicable
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms	
The interface elements of this screen are labels associated with panels, a learn more button for each panel and an invite friend button.	

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	3	of	3
Description	Musical Events		
Links from scenes	Events Fragment		
Links to scenes	Not Applicable		

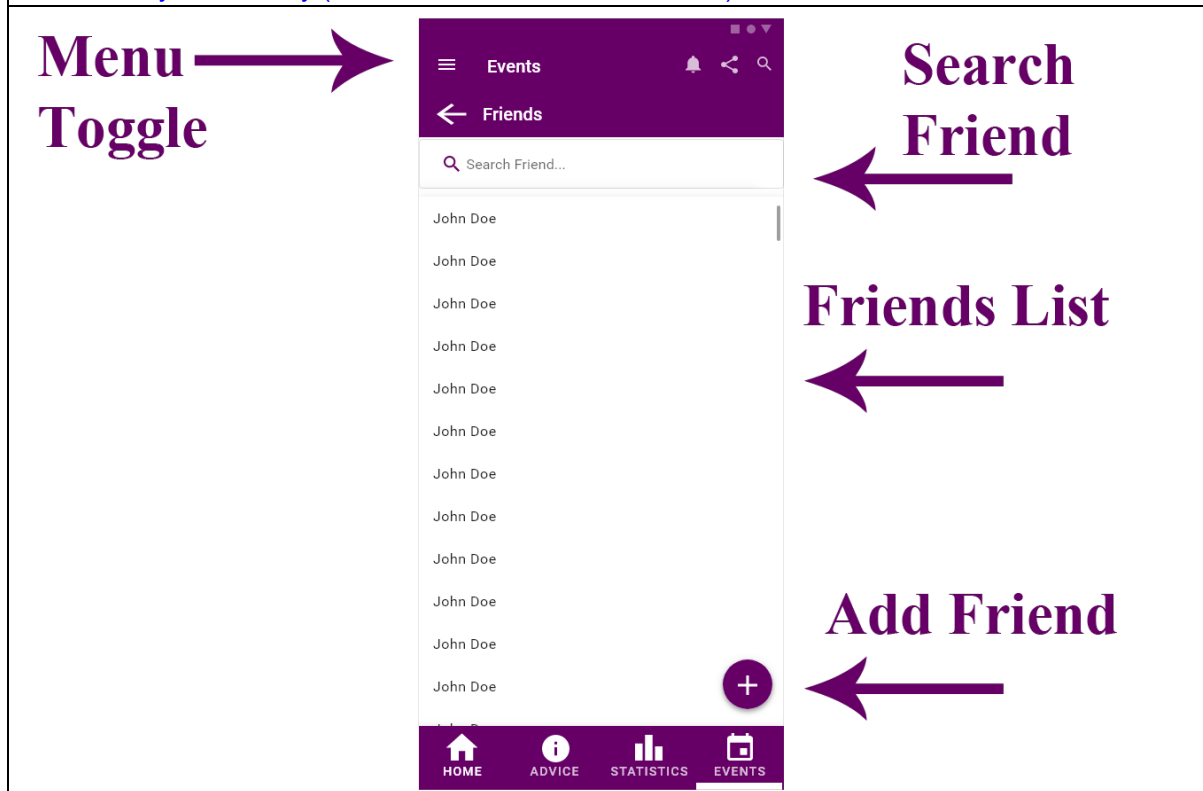
Functionality/Interactivity (Sketch, Screenshot and annotate)

The screenshot shows the 'Events' screen of the mobile application. The header is dark purple with a hamburger menu icon, the title 'Events', and notification, share, and search icons. Below the header is a sub-header 'Musical Events' with a back arrow. The main content area lists three events: 'Thu 8 April 19:00-23:00 Sam Fender' (Location: Glasgow), 'Sat 10 April 18:00-20:00 Bryan Adams' (Location: Aberdeen), and 'Sat 24 April 20:00-23:00 Andre Rieu' (Location: Glasgow). Each event card has 'LEARN MORE' and 'INVITE FRIEND' buttons. At the bottom is a navigation bar with icons for HOME, ADVICE, STATISTICS, and EVENTS. Annotations include: 'Menu Toggle' with an arrow pointing to the hamburger menu; 'Event Info & Invite Friend' with an arrow pointing to the event cards; and 'Friends' with an arrow pointing to the 'INVITE FRIEND' button.


Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.
Text attributes	The Roboto type of font is used for this activity.
Audio files included	Not Applicable
Video files included	Not Applicable
Still files included	Not Applicable
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms	
The interface elements of this screen are labels associated with panels, a learn more button for each panel and an invite friend button.	

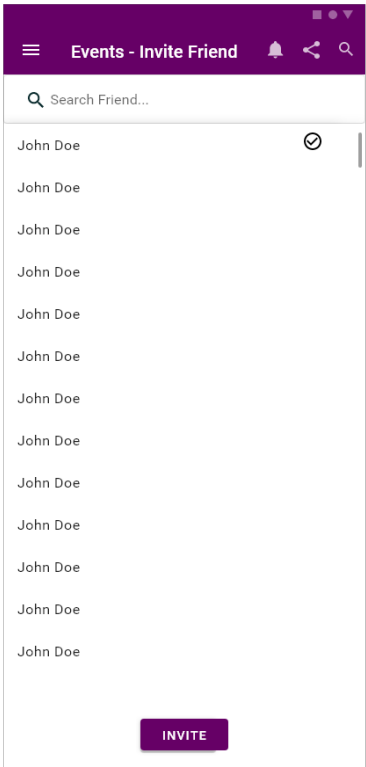
Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	1
Description	Friends Fragment		
Links from scenes	Event Fragment		
Links to scenes	Add Friend Fragment		

Functionality/Interactivity (Sketch, Screenshot and annotate)



Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.
Text attributes	The Roboto type of font is used for this activity.
Audio files included	Not Applicable
Video files included	Not Applicable
Still files included	Not Applicable
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms	
The interface elements of this screen are a text field associated with list view of friends and an add button.	

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	1
Description	Friends – Add Friend		
Links from scenes	Friends Fragment		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Menu Toggle</div><div></div><div>Search</div><div>Result List</div><div>Add Friend</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels associated with panels, a learn more button for each panel and an invite friend button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	1
Description	Invite Friend to Event		
Links from scenes	Sports Fragment, Fashion Fragment, Music Fragment		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Menu Toggle</div><div></div><div>Search</div><div>Friends List</div><div>Invite Friend</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are a friends list and an invite friend button.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	1
Description	Account Fragment		
Links from scenes	Not Applicable		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Menu Toggle</div><div></div><div>Profile & Mental Health</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels associated with links towards the user profile and the mental health fragment.			

Project name	RGU COVID-19 Mobile Application (COVID NULLUS)		
Date	01.04.2021		
Scene	1	of	1
Description	Mental Health Fragment		
Links from scenes	Not Applicable		
Links to scenes	Not Applicable		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
<div><div>Back →</div><div><div>← Mental Health</div><div><div>Depression Information</div><div>How to deal with depression during pandemic.</div><div>LEARN MORE</div></div><div><div>Anxiety Information</div><div>How to deal with anxiety and stress during pandemic</div><div>LEARN MORE</div></div><div><div>Wellbeing boost</div><div>Wellbeing advices</div><div>LEARN MORE</div></div><div><div>Helpline Information</div><div>Getting in touch.</div><div>LEARN MORE</div></div></div><div>← Information</div></div>			
Background	The background colour it is predominantly a dark shade of purple as the universal colour of the activity.		
Colour schemes used	The colour scheme used it a static dark shade of purple used in association with the white colour for the text elements.		
Text attributes	The Roboto type of font is used for this activity.		
Audio files included	Not Applicable		
Video files included	Not Applicable		
Still files included	Not Applicable		
Animation clips included	A Slide-Right animation it is present when switching the activity using the bottom navigation buttons.		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface elements of this screen are labels associated with panels and a learn more button for each panel.			

5.2 Conclusion

In order to provide a solution in the form of a application design to the problem which implies assistance in the back to normal transition from the COVID-19 pandemic a series of steps were performed. These steps were the gathering of relevant data to the problem in cause and the interpretation of the data collected into project specifications which will ultimately allow the creation of two practical designs that will provide a solution to the back to normal transition from the COVID-19 pandemic. These two practical designs were exposed to real world scenarios and human evaluations, these actions have allowed the selection of the most practical design in order to be used for the creation of a mobile application that will solve the problem in cause.

Appendix

Link: <https://www.surveymonkey.co.uk/r/2MPGJXJ>

RGU COVID-19 App Design

1. How old are you?

☐ 18-24

☐ 25-34

☐ 35-44

☐ 45-54

2. Do you get your COVID-19 government guidelines from online sources?

☐ Yes

☐ No

3. How often do you go to collective gathering events?

☐ Once a week

☐ A few times a month

☐ A few times a week

☐ Less than once a month

☐ Once a month

4. When you go to collective gatherings events, how you prefer to do so?

☐ Going to the events by yourself

☐ Going to the events with a social group

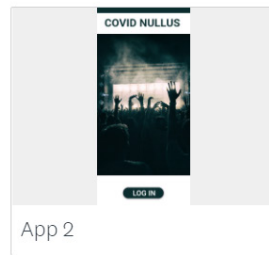
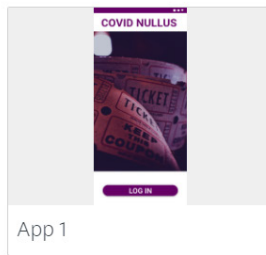
5. Do you have any of the following colour blind conditions?

☐ Deuteranomaly - Makes the green colour look more like red

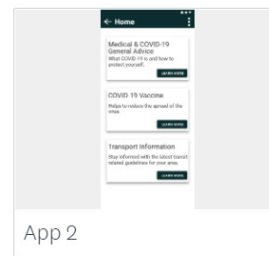
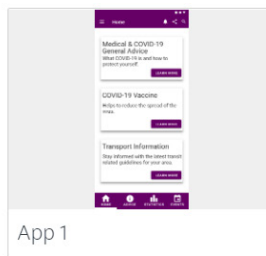
☐ Protanomaly - Makes the red colour look more like green

☐ None of the above

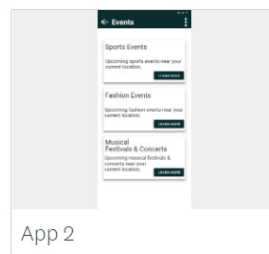
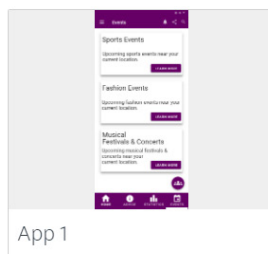
6. Which colour is more appealing to you?



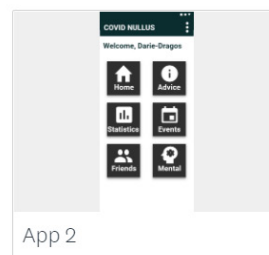
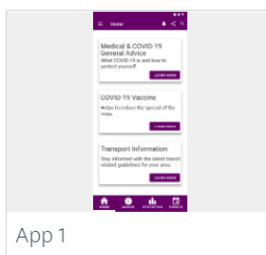
7. Which Home page is more appealing to you?



8. Which events page is more appealing to you?



9. Which App seems to present a simpler navigation system?



References

1. Moreno-Garcia, C., 2020, Week 5: Practical Design, Scenarios & Storyboarding [online lecture], CM4110 Human Computer Interaction, The Robert Gordon University, School of Computing, Teaching Online, 24 March 2021, Available from: <http://campusmoodle.rgu.ac.uk/mod/resource/view.php?id=3838837>, [Accessed 24 March 2021],
2. Moreno-Garcia, C., 2020, Week 6: Human Evaluation [online lecture], CM4110 Human Computer Interaction, The Robert Gordon University, School of Computing, Teaching Online, 24 March 2021, Available from: <http://campusmoodle.rgu.ac.uk/mod/resource/view.php?id=3839927>, [Accessed 24 March 2021],
3. Moreno-Garcia, C., 2020, *CM4110 C2 Model Solution* [online document], CM4110 Human Computer Interaction, The Robert Gordon University, School of Computing, Teaching Online, 24 March 2021, Available from: <http://campusmoodle.rgu.ac.uk/mod/resource/view.php?id=3875594>, [Accessed 24 March 2021],