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Man Up, Speak Up (Android Application)

Final Technical Report

National
College *of*
Ireland

Declaration Cover Sheet for Project Submission

SECTION 1 *Student to complete*

Name: David McEvoy
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Supervisor: Michael Bradford

SECTION 2 Confirmation of Authorship

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I confirm that I have read the College statement on plagiarism (summarised overleaf and printed in full in the Student Handbook) and that the work I have submitted for assessment is entirely my own work.

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Executive Summary

The primary objective of my application, "Man Up, Speak Up was to help Irish men start talking about their mental health and learn new ways to think differently. Through using my application, I hope Irish men will become more aware of their emotions and maybe notice a pattern to how they feel on a daily basis.

The technical solution I set out to build was an Android application developed in Java with Android Studio. While not available on the Google Play Store yet, I hope to have the application on the Play Store for the Showcase on the 24th May 2017.

On the 8th of May, I shared some details and screenshots of my application to my network on Facebook. I invited them to post suggestions on what they think they would need from an application like this on a daily basis. The response was significant, and I received two offers from trained psychotherapists to follow up with them if I wanted some professional guidance around the content of the application or its functionality moving forward. More details around this user research on Facebook can be found in the section **User Research (6.5)** below.

The application offers users a lot to help their mental health, but also could be used as vehicle to spread healthy awareness around mental health in Ireland for men. In the future, users will be able to promote their use of the application on Facebook through sharing an image to their friends. I hope that this promotion will chip away at a taboo that exists in Ireland around mental health for men and being able to talk.

In the future, I will be seeking the help of my own counsellor or a charity/organization to supply the content for my application. By doing this I will be using content that has been created or approved by qualified counsellors. For production and before the application is released on the Google Play Store, I have used placeholder content.

To give a brief overview of the application, when the application is launched, users are presented with an interface displaying 9 emotions. They are prompted to select an emotion. In the next phase of development, the user's emotion will be changed

in real time with the Firebase database. For production, this was manually committed.

This emotion decides what context based advice they receive in notifications or in their live feed that lives in the application. I hope that by using their live feed and receiving these notifications, it will awaken their senses to the emotions they feel, that will, hopefully lead to action. This action could be searching for a counsellor in their area through the on the "find a counsellor" tab. This Google Maps API integration will be part of the next phase of development.

1 Introduction

For my final year project, I wanted to concentrate on doing something significant for social change through tech. I am developing an Android application that will help Irish men start talking about their mental health and discover new ways of thinking. The application, called "Man Up, Speak Up", will be made available on the Google Play Store in 2017.

1.1 Background

Generally, men find it harder to talk about their feelings and struggles in life.

Seeking help was one of the best decisions of my life. There was fear at first and a reluctance because of the taboo that I've grown up with, but investing in my mental health has activated a new way of thinking for me and so many opportunities of happiness. And I'm still learning.

Keeping the conversation going around mental health in Ireland is so important. A taboo still exists, but thankfully, we are seeing a lot more campaigns, events and initiatives happening around Ireland both online and offline. All this helps in normalizing the subject matter of mental health and being able to talk.

As every man should know that it's okay to talk and that it's not a sign of weakness, I want to concentrate my final year project on an application that will help Irish men start talking about their mental health.

I hope my application will prove to be a useful resource for men taking their first steps in looking after their mental health and starting to talk.

1.2 Aims

I hope my application will prove to be a useful resource for men taking their first steps in looking after their mental health and starting to talk.

I aim to put mental health services and resources at men's fingertips. Throughout the development process, I will always keep the end user in mind, as I hope to publish the application on the Google Play Store.

My target market is Irish men and the application will be marketing as such, hence, the name, "Man Up, Speak Up".

I have been advised to seek backing and support from my own counsellor or an active organization/charity involved in mental health. Through their help, I hope to be able to source content that will exist within the application that will be approved by a qualified professional.

The main features of the application have been drawn from my own experiences and putting myself in the shoes of somebody who is just starting to address their own mental health or look after it and asking myself questions such as, "What would have made it easier for me to start talking sooner" and "What resources would I have liked to have." From asking myself these questions and drawing from my own experiences, I aim to develop a range of features that are both functional in terms of knowing where to find help, but also that the application itself can help users be more aware of how they feel day-to-day and receive context based advice based on these emotions they feel.

In short, the main objective of this application is to help Irish men start talking about their mental health and learn new ways to think differently.

1.3 Technologies

My application has been developed for Android using Java and Android Studio. Through talking with my supervisor, I decided to use Firebase to handle all authentication, storage and database interactions for the application. Firebase has laid the foundations for all the functionality on the application. Packages such as Glide (Loading Post Images) and FirebaseUI (Authentication), have integrated seamlessly with Firebase and allowed me to add dynamic functionality to the application with just a few lines of code.

Some APIs have been used to deliver data to the user and for registration/login purposes such as Facebook and Google Mail.

In the future, I will be calling the Google Maps API to give the user the ability to search for a counsellor through the application.

In the future, my testing will be done through a combination of unit and instrumented testing within Android Studio. For now I have listed 9 test plans that will be tested during phase 2 of the applications development.

For functional user testing within the application, I will be using Android Instrumentation.

2 System

2.1 Requirements

2.1.1 Functional requirements (Implementation and Development)

<mark>#FR1</mark> User launches application and is presented with splash screen welcoming them to the app
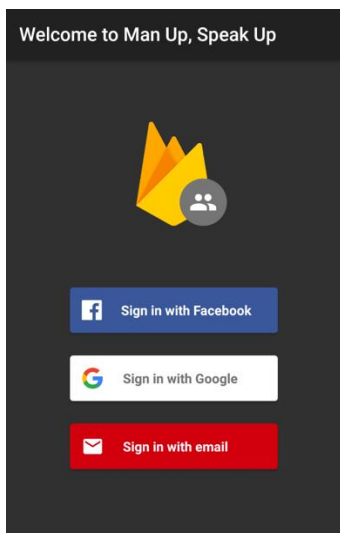
Implementation and Development

I designed the splash screen image for Man Up, Speak Up in Photoshop. I uploaded it into my drawables in Android Studio. Using a variable called SPLASH_TIME_OUT and the Android Handler class, I was able to delay the opening login screen from showing by 5 seconds to show the image.

Implementation and Development

Man Up, Speak Up gives users 3 ways to sign up: Facebook, Gmail and Email. Using the FirebaseUI for Android, I was able to harness the power of this framework to create a smooth sign in flow for users across these three types of login and registration options. Firebase Authentication works seamlessly with all these platforms and their APIs. However, while Gmail and Email were relatively easy to implement, Facebook took a little more time. I signed up for a developers account, and had to create an app to get an API key. This key allowed me to use the Facebook login product with my application. No matter what sign in process a user goes through, Firebase User UID recognizes the user's details and pairs the updates the user with the alternative way that they signed up. All this authentication information can be found for each user in the Firebase console.
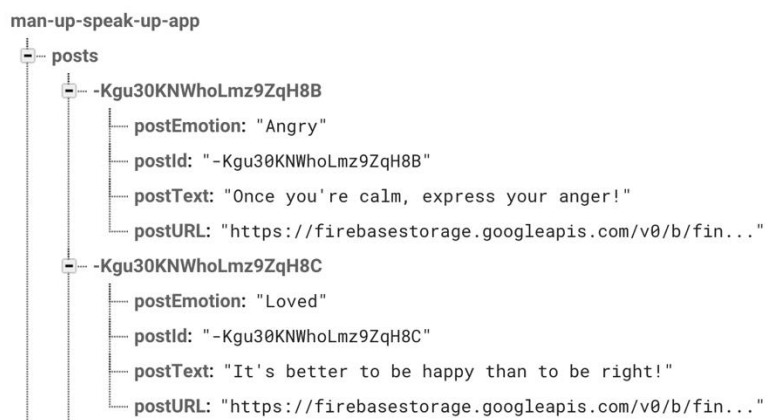
Implementation and Development

For Man Up, Speak Up, the current user's emotion is captured by the user selecting an emoticon. After selecting the emoticon, the user receives a toast (pop-up) that confirms the emotion. A background process is running during this, which sends an intent to the main activity class, with some extra information i.e. the users' emotion.

```java
if (position == 0) {
    Toast.makeText(ChooseEmotion.this, "You are feeling happy!",
                   Toast.LENGTH_SHORT).show();
    Intent i = new Intent(ChooseEmotion.this, MainActivity.class);
    i.putExtra("Emotion", "Happy");
    startActivity(i);
```

Once it lands in the main activity class, the add event click listener working with firebase and my list of posts, takes action and gets this put string extra and the key variable called emotion. It uses the emotion to match the postEmotion element in the posts table. Once matched, it draws a post from Firebase and my posts JSON tree:

```
man-up-speak-up-app
  posts
    -Kgu30KNWhoLmz9ZqH8B
        postEmotion: "Angry"
        postId: "-Kgu30KNWhoLmz9ZqH8B"
        postText: "Once you're calm, express your anger!"
        postURL: "https://firebasestorage.googleapis.com/v0/b/fin..."
    -Kgu30KNWhoLmz9ZqH8C
        postEmotion: "Loved"
        postId: "-Kgu30KNWhoLmz9ZqH8C"
        postText: "It's better to be happy than to be right!"
        postURL: "https://firebasestorage.googleapis.com/v0/b/fin..."
```

#FR3 MindSnap – A notepad where the user can vent. To protect what they type, the notepad auto-deletes after 10 seconds

Implementation and Development

The main aim with this piece of functionality was to create a distraction free outlet for users to vent their frustrations through typing.
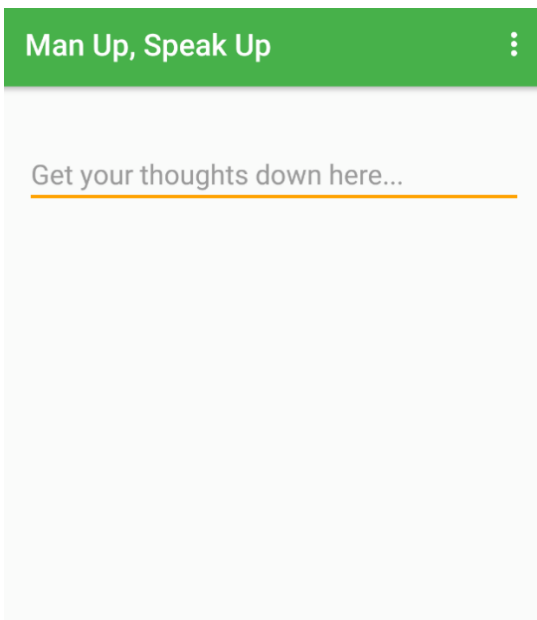
The user is presented with a textbox where they can type what they like for how long they want to. I used the handler class again and a runnable function called timerRunnable.

```java
@Override
public void onTextChanged(CharSequence s, int start,
                          int before, int count) {
    if (s.length()> 0){
        if (!snapchat.getText().toString().equals("")) {
            timerHandler.removeCallbacks(timerRunnable);
            timerHandler.postDelayed(timerRunnable, 10000);
        }
        else {
            timerHandler.removeCallbacks(timerRunnable);

        }

    }
    else {
        timerHandler.removeCallbacks(timerRunnable);
    }
```

The onTextChanged method helped me to target the edittext field. Once the 'snapchat" field was null, nothing happened. However, if the user entered any text in the snapchat field, the timer resets to 10 seconds. If there is any change to the text that the user entered, the 10 seconds starts counting down.

#FR4 User receives context based information based on how they're feeling

Implementation and Development

Once a user selects an emotion, they are presented with a tip, quote or image. For now, this text is placeholder text. Posts come in two forms: Text only, or Text and an image. These posts in the users feed are presented in a card view within a list view.

All posts use a ListView as their container. Images are loaded from Firebase Storage by using Android Glide – an image loading and caching library. Depending on the emotion, I used a message array adapter for two different layouts for posts: one for text only, and one for text and images.

My ListEntry array checks to see if the chosen post has an image or not. This is done by checking if a postURL element can be found under the post in Firebase.

```java
if (listEntry.getPicURL().isEmpty()){
    view = inflater.inflate(R.layout.tip_layout2, null);
    message = (TextView) view.findViewById(R.id.message);

}else{
    view = inflater.inflate(R.layout.tip_layout, null);
    message = (TextView) view.findViewById(R.id.message);
    ImageView image = (ImageView) view.findViewById(R.id.image);
    Glide.with(context).load(listEntry.getPicURL()).into(image);
}
```

If an image, or postURL, is found in the JSON, then the alternative layout is used and Glide steps in to load the image.

All my images were stored in Firebase Storage under my Firebase Apps directory. References to these images were made in the JSON in the database:

```
man-up-speak-up-app
  posts
    -Kgu30KNWhoLmz9ZqH8B
        postEmotion: "Angry"
        postId: "-Kgu30KNWhoLmz9ZqH8B"
        postText: "Once you're calm, express your anger!"
        postURL: "https://firebasestorage.googleapis.com/v0/b/fin..."
```
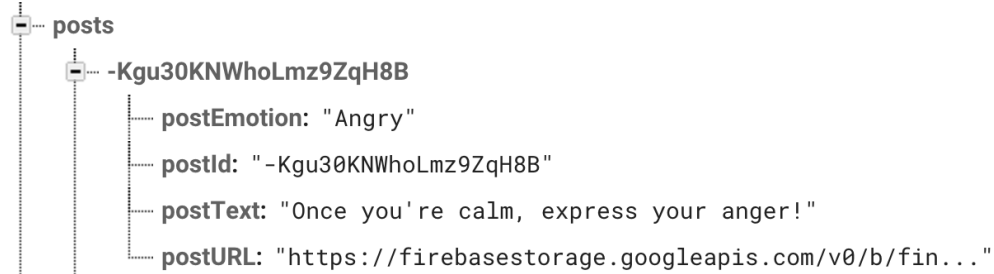
#FR5 The Application is personalized for each user

A personalized experience is important for every user of Man Up, Speak Up. Each user will want to know that the application is tailored for them and they should see this throughout the applications workflow.

I have tried to create a personalized experience for each user on the main page. The application welcomes them by first name. This first name is pulled from the users table that I created. It works with the details Firebase holds for each user, and Firebase helps it determine what user is logged in at any one time.

```java
databaseUsers = FirebaseDatabase.getInstance().getReference("users");

final TextView test = (TextView) findViewById(R.id.textViewName);

final FirebaseUser fbuser = FirebaseAuth.getInstance().getCurrentUser();
```

Here a reference is made to the "users" node in Firebase. After that, I get an instance of the current user according to Firebase.

```
databaseUsers.addValueEventListener(new ValueEventListener() {
@Override
public void onDataChange (DataSnapshot dataSnapshot){
    for (DataSnapshot postSnapshot : dataSnapshot.getChildren()) {
        User user = postSnapshot.getValue(User.class);
        if (user.getUserFirstName() != null) {
            if (fbuser.getUid().equals(user.getUserID())){
                String firstName = user.getUserFirstName();
                test.setText("Hi " + firstName + "." + "\n" + "How do you feel today?");
            }
        }
    }
}
}
```

To complete the job and retrieve the users first name, I used an add value event listener that checks that the users first name isn't null. Then it compares the firebase user ID with the User ID – if a match is found, we get the first name and welcome the user.

```
        if (user.getUserFirstName() != null) {
            if (fbuser.getUid().equals(user.getUserID())){
                String firstName = user.getUserFirstName();
                test.setText("Hi " + firstName + "." + "\n" + "How do you feel today?");
            }
        }
    }
}
```

<mark>#FR6 A summary profile page for each user</mark>

<u>Implementation and Development</u>

Each user can visit their profile page where they can see the authentication providers that they have used, and also see what their current emotion is.
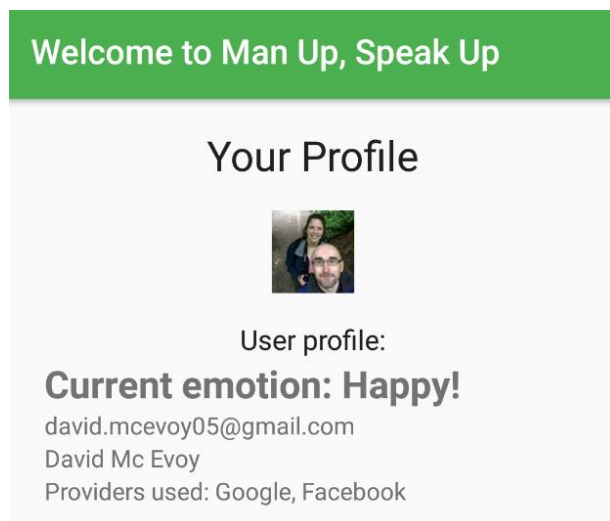
The current emotion of each user is captured by the userEmotion variable in the user's class. Here it is in the JSON in Firebase:

```
users
    CthHuhEDcXQG6z1W2uk7JdSLZ5W2
        userEmailAddress: "tegiddens.3@gmail.com"
        userEmotion: "Anxious!"
        userFirstName: "Tara"
        userID: "CthHuhEDcXQG6z1W2uk7JdSLZ5W2"
```

To retrieve the emotion of the active user from Firebase is similar to retrieving the first name of the user, if a little simpler as no comparison needs to be made with the Firebase credentials.

Again, I get my reference to the user's node in Firebase:

```java
databaseUsers = FirebaseDatabase.getInstance().getReference("users");

final TextView view = (TextView) findViewById(R.id.current_user_emotion);
```

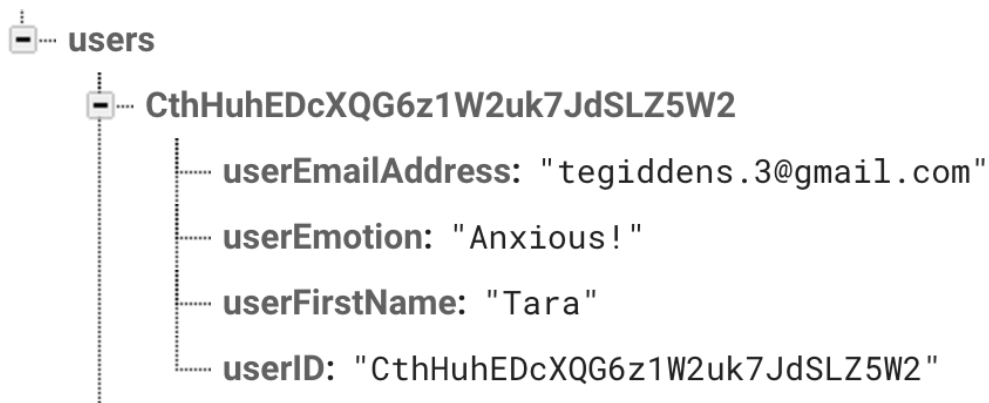Then I target the children of the users' node with onDataChange. This allows me to check if the user's emotion is present, if it is, I can retrieve and set the field to the user's emotion.

```java
databaseUsers.addValueEventListener(new ValueEventListener() {
    @Override
    public void onDataChange (DataSnapshot dataSnapshot){
        for (DataSnapshot postSnapshot : dataSnapshot.getChildren()) {
            User user = postSnapshot.getValue(User.class);
            if (user.getUserEmotion() != null) {
                String currentEmotion = user.getUserEmotion();
                view.setText("Current emotion: " + currentEmotion);
            }
        }
    }
}
```

2.1.2 Extra set of functional requirements

(Implementation and Future Development)

==#FR1 User can promote their use of the application by sharing a promotional image on Facebook==

Raising awareness around mental health in any way through the application is important. To achieve this, I have included a tab in my navigation for a sharing facility that users can use if they are enjoying the application and finding that the application is benefiting their mental health or opening them up to seeking help.
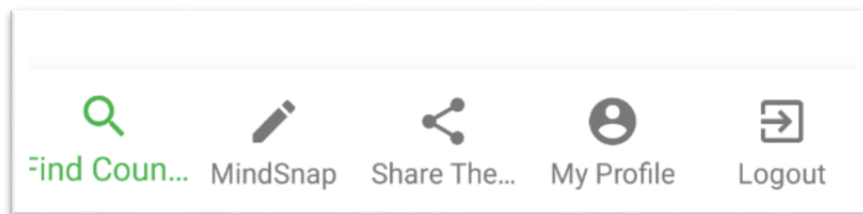
This sharing facility will be implemented by using another product of the Facebook API.

The App Invites for Android will allow the users of Man Up, Speak Up to share their use of the application to other users in their Facebook network. **As a link to the URL where they can download the application needs to be provided,**

this functionality may need to wait until the application is available on the Google Play Store.

Dialog parameters

There are 2 parameters passed to the invite dialog: App Link URL and preview image URL.

Parameter	Description	Required
App Link URL	App Link for what should be opened when the recipient clicks on the install/play button on the app invite page.	Yes
Preview Image URL	A URL to an image to be used in the invite.	No

#FR2 User finds counsellors in their area through the application and with the help of Google Maps

In a lot of ways, Man Up, Speak Up is a stepping stone for users to go and get professional help from a trained professional. In the future the application's placeholder text will be replaced by real advice from trained counsellors and psychotherapists. The planned **find a counsellor feature** through the application will use Google Places API to bring an element of location awareness to the applications core if location awareness is enabled by the user. Users will then be able to use Google Maps, either within the application or outside the application, to search for counsellors in their area that have registered with Google Business.

#FR3 Users emotion is changed in users table dynamically by the emotion they choose at the heart of the application

For production, manually entering the users' emotion ID in Firebase worked fine, but going forward the user's emotion will need to updated from the application when the user changes chooses a different emoticon.

Like above with the users first name and emotion, I will need to reference my user's node:

```
databaseUsers = FirebaseDatabase.getInstance().getReference("users");
```

After I get my reference, I will need to capture the change in emotion by capturing the user's new emotion if a second one in a session. This will need to be part of the Choose Emotion Class, i.e. where all the emotions are displayed and all have listeners attached to them. To update the database, and users table, I will need to use Firebases setValue() method to save the change in emotion to the users reference node. I will also need to check the user's identity with the firebase user ID.

2.1.3 Data requirements

Most of the data for the application is stored in JSON tress in Google Firebase. I have used Firebase Authentication, Firebase Database and Firebase Storage so far in development.

2.1.4 User requirements

UR1	A mobile application available on the Google Play Store.
UR2	Application should serve content that is sourced from a reputable source in the mental health area/a charity or organisation in the mental health space or a qualified psychoanalyst/psychologist.
UR3	Application should be designed for ease of use and be intuitive.
UR4	Application should protect any personal information that is inputted by users through any text inputs
UR5	Application should be informative.
UR6	Application content must consider the audience (Irish males)

2.1.5 Usability requirements

The application will be tested for usability in phase 2 of development. These usability tests will be recorded in some case to provide historical knowledge around the usability issues as the application is built out. Any beta releases will have a survey after a certain period of time that will have questions around how the application is functioning and how can it be improved form a users' perspective.

2.2 Design and Architecture

To be added in January.

2.3 Use Cases

2.3.1

Use Case 1

User communicates how they're feeling.

Scope

The scope of this use case is to enable a user to login and choose an emotion.

Description

This Use Case describes how a user can login and choose an emotion.
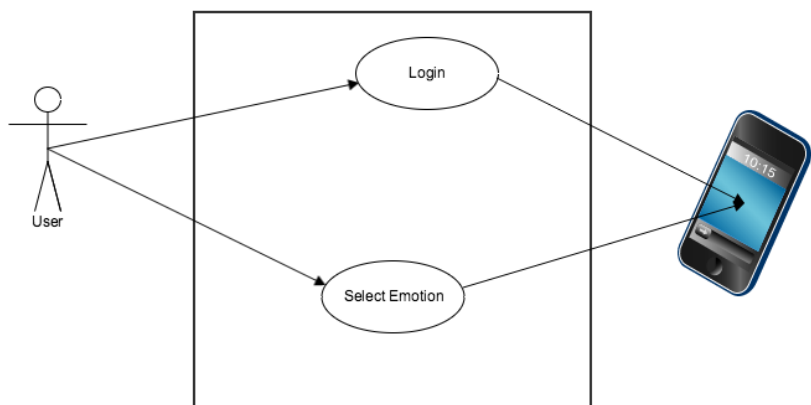
2.3.2

Use Case 2

Use Case 1

User chooses to receive notifications based on their current emotion or at random

Scope

The scope of this use case is to allow to user to choose to receive advice/tips from the application in the form of notifications on their phone, based on their current emotion

Description

This Use Case describes how a user choose to receive notifications by their current emotion or at random

2.4 Implementation

Describe the main algorithms/classes/functions used in the code. Consider to show and explain interesting code snippets where appropriate.

Didn't have enough time to add – will be demonstrating in depth for presentation.

2.5 Graphical User Interface (GUI) Layout

This section will provide details around the interface that I have built for my application, Man Up, Speak Up. I will provide details on each screen and also give some insight to how the users experience was considered carefully to make this application enjoyable and friendly to use. The final user interface of this application was influenced heavily by the way I needed to build out from the users feed and how to display these posts to make them the heart of the application.

Please note that some features have not been implemented yet, but appear in navigation menus (This includes finding a counsellor though Google Maps and sharing the application on Facebook. You can find details relating to these extra features in the functional requirements section 2.1.1. I have included any extra functionality as an extra set of requirements)

This is the welcome screen to the application. This displays for 10 seconds before the user is brought to the login and registration pages. Its purpose is to welcome the user and present a value proposition to the user.

Welcome to Man Up, Speak Up

Sign in with Facebook

Sign in with Google

Sign in with email

Email	Providers	Created	Signed In	User UID ↑		
tegiddens.3@gmail.com	G	Apr 30, 2017	May 4, 2017	CthHuhEDcXQG6z1W2uk7JdSLZ5...		⋮
david.mcevoy05@gmail.com	G f	Apr 29, 2017	May 9, 2017	TfjeVm2vjbVK4r6llpvcCDEJwjQ2		
giddens_3@hotmail.com	✉	Apr 30, 2017	Apr 30, 2017	xoN7fceawiPMQHWzm0OfhBEgZs...		

🔍 Search by email address or user UID   **ADD USER** ⟳

Rows per page: 50 ▾   1-3 of 3 ‹ ›

This is the login screen. Man Up, Speak Up supports 3 types of authentication: Facebook, Email and Gmail. All these synchronize and authenticate with Firebase Authentication. See Firebase Screenshot above with test users.

Welcome to Man Up, Speak Up

You are signed in!

PROCEED TO APP

SIGN OUT   **DELETE ACCOUNT**

User profile:
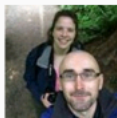
david.mcevoy05@gmail.com
David Mc Evoy
Providers used: Google, Facebook

Welcome to Man Up, Speak Up   ⋮

Hi David.
How do you feel today?

😊 Happy	😞 Sad	😖 Anxious
😤 Angry	😢 Lonely	😓 Worried
😠 Disgusted	😦 Fearful	😍 Loved

🔍 Find Coun...   ✏️ MindSnap   ❮ Share The...   👤 My Profile   ➦ Logout

This is the heart of the application and the first screen that users are presented with after they have passed the intermediate page after logging in. An emphasis was put on keeping it clean in design, so as to put maximum focus on the nine emoticons. The emotions are displayed in a Grid View. A tab menu is provided at the bottom and a fly out menu is provided at the top.

Welcome to Man Up, Speak Up

Your Profile

User profile:

Current emotion: Happy!

david.mcevoy05@gmail.com
David Mc Evoy
Providers used: Google, Facebook

BACK TO APP

SIGN OUT   DELETE ACCOUNT

This is the users profile page. It is where users can see their current emotion status and see some details around the authentication accounts that they have used. This page is accessed from the tab navigation bar.

Happy feelings will attract happy circumstances.
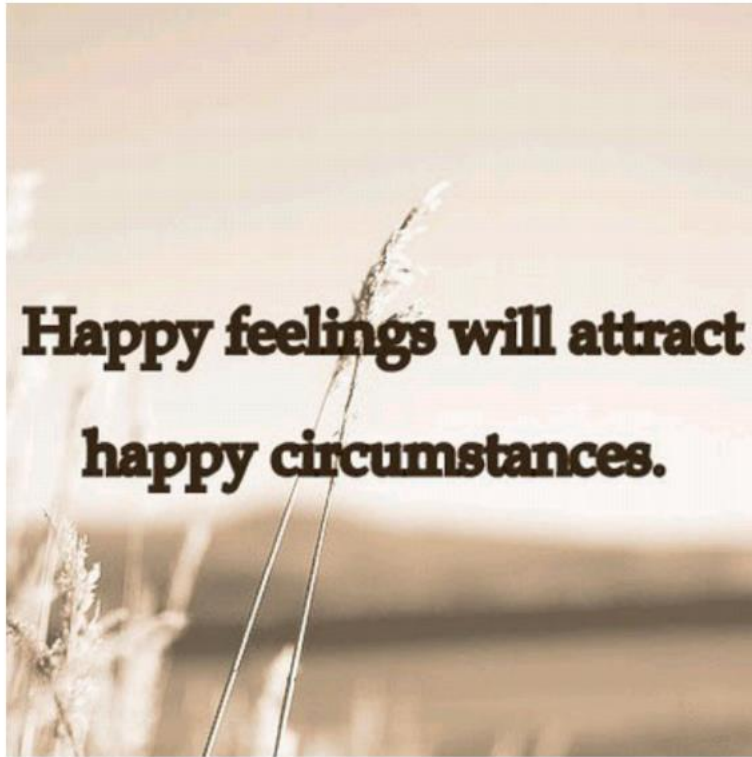
Once you're calm, express your anger!

This is an example of a news feed that displays images and text. On these type of pages, each post has text AND an image. The posts are presented in a Card View and posts can be scrolled down through.

Welcome to Mar...   Sign out

                           Fresh Config

Hi

How do yo   Cause Crash

 Happy

 Sad

 Anxious

 Angry

 Lonely

 Worried

 Disgusted

 Fearful

 Loved

Find Coun...   MindSnap   Share The...   My Profile   Logout
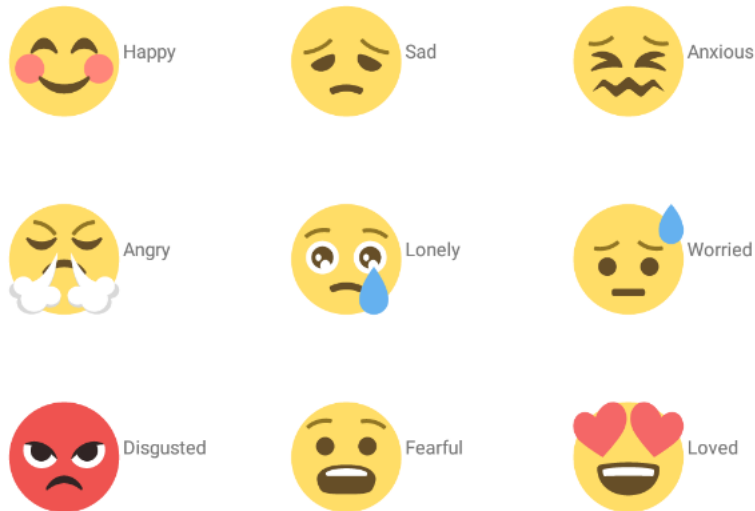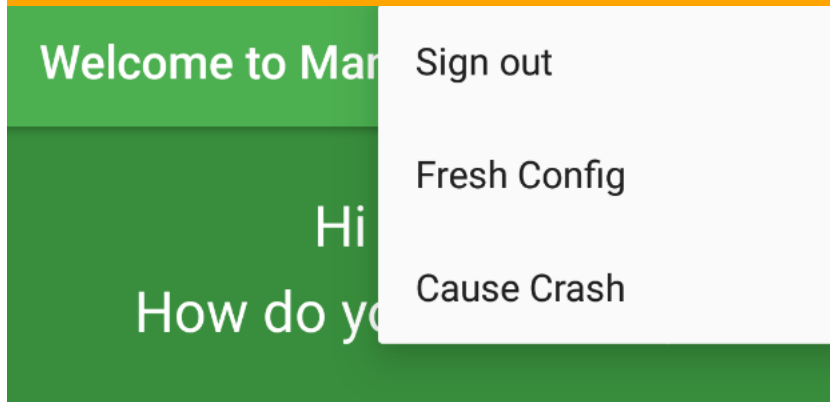
Simple fly out menu, where users can sign out of the application.

Find Coun...   MindSnap   Share The...   My Profile   Logout
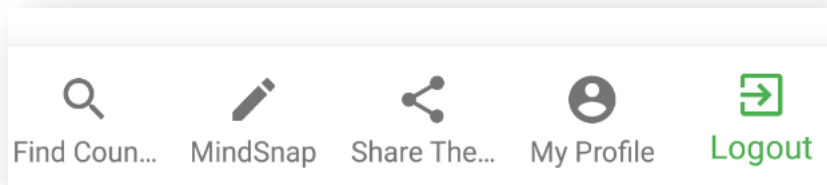
Tab menu which is the primary navigation menu for phase 1 of the build of this application. Users can access all the features of the application through this.

Welcome to Man Up, Speak Up ⋮

List what you like about yourself!

This is an example of a news feed that displays text only. On these type of pages, each post has text. Text posts are presented in a Card View and text posts can be scrolled down through by users.

It's better to be happy than to be right!
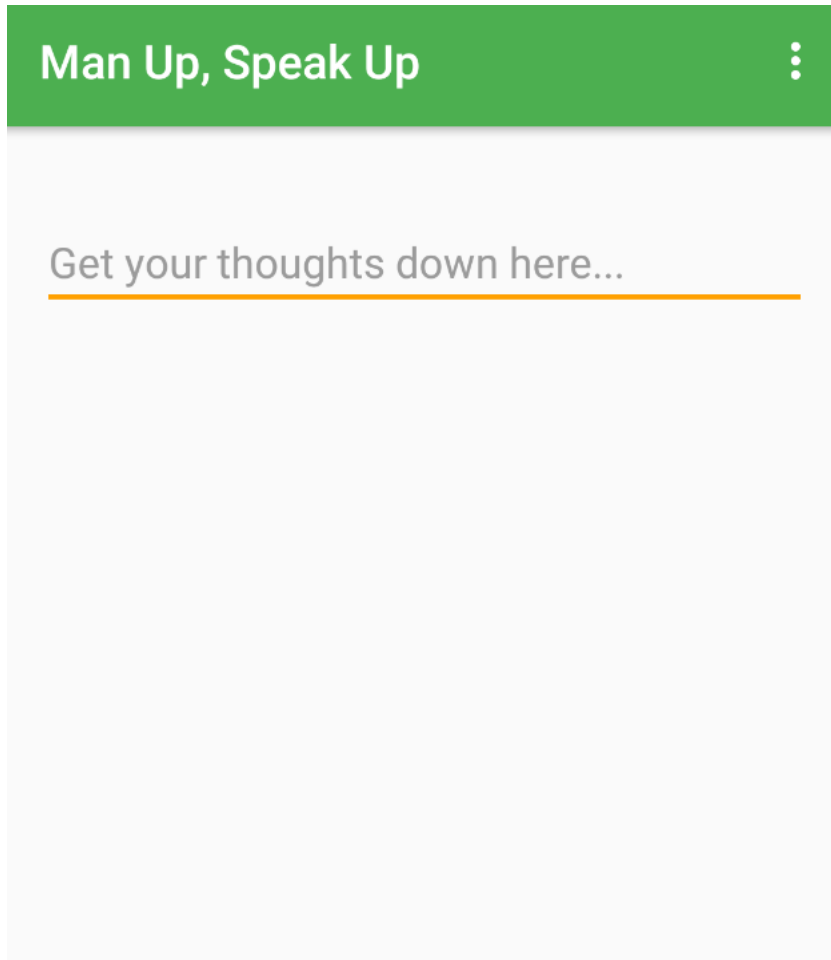
This is the Mind Snap page where users can vent to their hearts content, and the text is deleted after 10 seconds if left idle. The design is clean intentionally, to provide a distraction free interface to users to type their thoughts.

2.6 Testing

Describe any testing tools, test plans and test specifications used in the project

My testing will be done through a combination of unit and instrumented testing within Android Studio in the future.

Some test plans that I plan on testing for in the future can be found below. These series of tests will test that authentication, database retrieval and user management are all running smoothly.

T.1 – Authentication Facebook
Test Objective: Test Mobile Application connects to Facebook Login API and authenticates successfully with Firebase Authentication on login.
Condition: User has logged in with their Facebook account.
Expected Result: Login is successful and secure through Facebook, and the Firebase User is shown to be logged in with Facebook in authentication panel in the Firebase console. Sign in date is updated.

T.2 – Authentication Gmail
Test Objective: Test Mobile Application connects to Google Mail API and authenticates successfully with Firebase Authentication on login.
Condition: User has logged in with their Gmail account and the Firebase User is shown to be logged in with their Gmail account in Firebase console.
Expected Result: Login is successful and secure through Gmail, and the Firebase User is shown to be logged in with Gmail in authentication panel in the Firebase console. Sign in date is updated.

T.3 – Authentication Email

Test Objective: Test Mobile Application connects to user's email provider and authenticates successfully with Firebase Authentication on login.

Condition: User has logged in using correct credentials.

Expected Result: Login is successful with email provider and the user is shown to be logged in with their email address in Firebase Console. Sign in date is updated.

T.4 – Retrieval

Test Objective: Ensure posts are returned correctly from the Firebase database when user clicks on an emotion.

Condition: User clicks on emotion and is brought to a posts page tailored to the emotion that they have chosen.

Expected Result: A post is returned to the users' feed that has matched the emotion that the user has chosen.

T.5 – Read Posts (User)

Test Objective: Ensure posts and images are easily readable and presented in a coherent manner throughout the user interface.

Condition: Employee has chosen an emotion and is brought to a posts page.

Expected Result: The requested post and images (if part of the post in question) are displayed clearly.

T.6 – Text Field clears within timeframe specified in Mind Snap feature

Test Objective: Ensure that any text entered in text field for Mind Snap feature is cleared if application is left idle or on button down is not clicked

Condition: User has opened the Mind Snap feature on the application and started typing some text

Expected Result: The text area clears after 5 seconds and hint text is displayed

T.7 – Users current emotion is retrieved from Firebase database

Test Objective: Ensures that user's current emotion can be read from users' table and be returned on user's profile page.

Condition: User has been given an emotion in Firebase Real-time Database.

Expected Result: The correct emotion associated with the user is retrieved from Firebase Real-time Database and shown on the users profile page

T.8 - Logout
Test Objective: Ensure user can logout from Man Up, Speak Up securely and changes are committed to Firebase Authentication
Condition: User is logged into application and clicks on logout button.
Expected Result: The user is returned to home screen and logs out securely. Changes are reflected in Firebase Authentication panel.

T.9 – Correct name is displayed when user logs into application
Test Objective: Tests that the correct User Name is returned from users table for current Firebase user of the application on the welcome screen.
Condition: User is a registered user of the application and has been given a node on users table and User ID matches firebase user ID (manually).
Expected Result: Correct username is returned on welcome screen.

2.7 Customer testing

Provide evidence for and results of customer testing. This may include ratings or quotes from the customer.

Customer testing will be done when the application is near completion and ready to be handed over to a sample user base for user acceptance testing. For this testing phase, all the second phase features of the application will be working and our the tabs on the tab layout will be active. To get feedback in real time, I will be use Google's Cloud Messaging Platform to get a sense of how the application is

serving users and can be improved. This will provide us with a good communication funnel to our users when they experience bugs or problems with the application.

2.8 Evaluation

How was the system evaluated and what are the results? In many cases this will include usage data and user feedback. It may also include performance evaluations, scalability, correctness, etc. depending on the focus of the project.

3 Conclusions

I feel that there are plenty of opportunities and advantages to developing an application of this nature, *which I will discuss in part 4 of this final technical report* below.

Here I would like to discuss the limitations of this application and how they could be overcome.

Firstly, to develop a rich user experience for users on mobile will take time and a strong understanding of the Android platform and Java. I'm constantly learning about this platform, and how to build for mobile. However I do think that by taking the concept of Man Up, Speak Up and getting the core functionality working, it has given me confidence to pursue this application in the future, and not to limit the application in terms of where it could go. With a solid foundation and some big ideas for the application, I feel that the application is set up now to provide that rich user experience to users.

A second limitation that I have considered would be on boarding users and convincing them that this application could really help then and help them activate a new way of thinking. Irish males generally shy away from this subject matter, so I would see this as a challenge in terms of getting buy-in from them. However, I do feel that as mental health is becoming more a part of the social conversation in Ireland every day, I think this would encourage people to maybe check the application out, at the very least.

Lastly, I think it's important to ask the question, "Can a mobile application really help somebody experiencing serious mental health issues?", as in, "Is it the right form of help to be receiving?". Mental health is such a personal experience for every one of us, where the advice and help we need can differ greatly from one person to the next. Serving and delivering the right content to a person through a mobile application will be a huge challenge and will require, potentially, a massive

amount of intelligence and personalisation. I see the first iteration of "Man Up, Speak Up" to be a touchpoint for males in Ireland to get started on looking after their mental health and removing any hesitation in talking about a problem or seeking help when they have one. After that, and through further iterations, I hope that the application can grow with every user and serve them the content they need to live a life with a "happy head".

4 Further development or research

On successful completion and delivery of Phase 1, I aim to evolve the "Man Up, Speak Up" application by adding more features and enhancing the users' experience.

Firstly, I aim to develop an iOS application for the "Man Up, Speak Up" application so as to reach out to iPhone users who might find this application helpful. By developing a version of the application for iOS, I want to reach that larger audience of Apple users to help spread awareness around mental health for men in Ireland.

Through partnering with a charity or organization, I hope to work alongside them to serve the right content tailored to how users are feeling at a specific time. I aim to develop a content calendar in the future that will deliver advice for users that will come from qualified professionals. Every user will be different, but I hope that through the technical abilities of my application, we can learn a lot about the users over time and what content is going to be most helpful to them. Down the line, I want to use Google's Cloud Messaging Platform (GCM) to send out regular feedback emails within the application. These would investigate if the context based content being served to them is helpful to how they feel.

In drawing up my requirements specification, I prioritized my requirements and put them against my project plan to see what was achievable between now and May. There is a lot of functionality that I hope to add in the future that will improve the user's experience greatly. I feel that the profile of the user will be significant both for me in bringing the application forward, but also for the user and what they get from using the application over a period of time.

I aim to make "Man Up, Speak Up" the go-to application for users, where they can see the changes in their mood over a period of time, or even over seasons. Charting these emotions for my user will be a key focus in retaining users and keeping them focused long term in improving their mental health.

Like any news feed on social media sites, the "Man Up, Speak Up" feed will be heart of this application for users and an area where I want to focus on developing

further in the future. Giving users the power to personalize their feed is another functionality I hope to implement in the future. Whether that be placing their own content in the application, taking a piece of content from the web or maybe even taking a piece of content from another application on their phone and placing it into their feed that. Being able to build up a repository of tips, advice and methods for dealing with your mental health is important, like that, I hope the users feed can be a place where users build their own repository.

I hope to harness user feedback in developing the application going forward. When the application goes live, I plan on trying to gain feedback from users' after a period of time to ascertain if the application has had a positive impact on their mental health. A lot of my questions will be geared towards getting a sense if the content is helpful within the application.

I feel that applications of this kind are very important for men worldwide. This application is aimed towards Irish men, and that's my first port of call to develop an application that is functional, gives advice that can alter the way Irish men think and give men that push that they might need to chat to a friend or a professional.

5 References

6 Appendix

6.1 Project Proposal

Project Proposal
12119121.docx

6.2 Project Plan (Updated for submission on May 10th, 2017)

PROJECT MILESTONES	INTENDED COMPLETION DATE
Brainstorming – Define Idea & Audience	
Design Logo and App Color Palette	
Develop Presentation for Project Proposal	
Project Proposal Ratified	4th/5th October
Setup Development Environment	
Reflective Journal 1	8th October
First Meeting with Supervisor – 17-10-16	
Requirements Gathering	
Project Proposal	21st October
Second Meeting with Supervisor – 10-11-16	
Develop Mockups/Screens for Application's Interface (Balsamiq)	
Reflective Journal 2	4th November
Third Meeting with Supervisor – 15 – 11 - 16	
Requirements Specification Document	18th November
Fourth Meeting with Supervisor – 22 – 11 - 16	
Reflective Journal 3	9th December
Mid-Point Technical Report	11th December
Develop Prototype for Presentation	
Update Slides for Presentation	
Project Prototype and Presentation – 19th December	
Reflective Journal 4	6th January
Coding/Design/Implementation	Feb-May
Reflective Journal 5	10th February
Fifth Meeting with Supervisor – 28 – 02 - 17	
Reflective Journal 6	10th March
Sixth Meeting with Supervisor – 21 – 03 - 17	
Seventh Meeting with Supervisor – 04 – 04 - 17	
Reflective Journal 7	7th April
Eighth Meeting with Supervisor – 18 – 04 - 17	
Eighth Meeting with Supervisor – 25 – 04 - 17	
Ninth Meeting with Supervisor – 03 – 05 - 17	
1. Final Project Documentation Handover & Upload 2. Poster Handover & Upload	May 10th
1. Final Software Code Upload 2. Upload Final Presentation Slide	May 14th

Final Project Presentation	May 15th
Project Showcase	May 24th

6.3 Monthly Journals

Reflective Journal 1 – Sept/Oct

journal-entry-
number-1-

Reflective Journal 2 – Oct/Nov

journal-entry-
number-2-

Reflective Journal 3 – Nov/Dec

journal-entry-
number-3-

Reflective Journal 4 – Dec/Jan

journal-entry-
number-4-

Reflective Journal 5 – Jan/Feb

journal-entry-
number-5-

Reflective Journal 6 - Feb/Mar

journal-entry-
number-6-

Reflective Journal 7 – Mar/Apr

journal-entry-
number-7-

Reflective Journal 8 – Apr/May

journal- entry-
number- 8-

6.4 Mock-ups

Here are some mockups of how the User Interface of "Man Up, Speak Up" will look on Android devices. These mockups were built from my functional/non-functional requirements and trying to achieve an intuitive user journey.

Home Screen of an Android device and how Man Up,
Speak Up will appear on mobile device

User Registration and Login Screen. Users can register
by email or through Facebook.
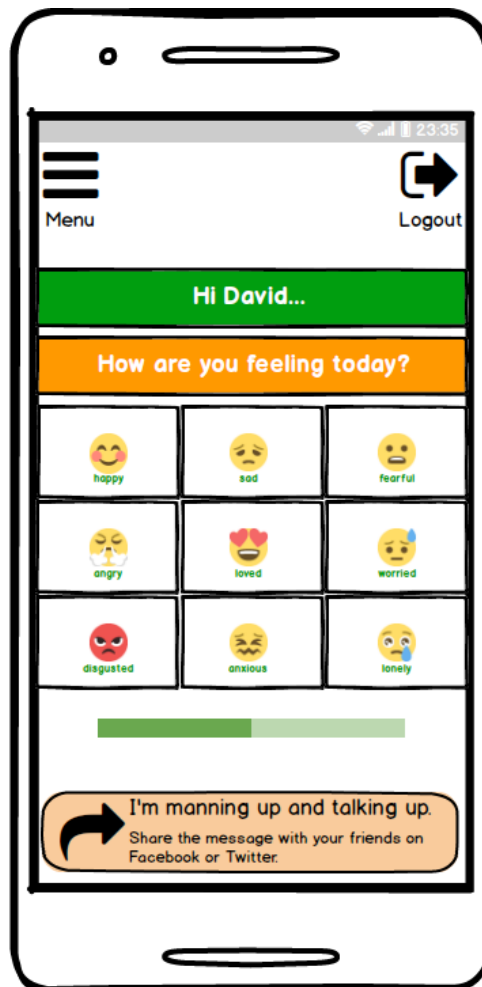
Home/Welcome screen for users. This is the screen
where users input how they feel. What they choose here
determines the context based content that they will be

Information

Man Up, Speak Up is an Android application that aims to help Irish men to start talking about their mental health and learn new ways to think differently.

Man Up, Speak Up was created as part of the BSc in Computer Science at the National College of Ireland.

All content was supplied by " ", and comes from professionally trained counsellors/psychoanalysts.

❓ If you have any questions...

Information screen about Man Up, Speak Up. Where the content comes from etc.

Menu

Logout

Your Mental Health Feed
The best feed of them all!

How you're feeling   Sad

💡 The mind altering alters all.

🔍 Time to talk? Find a counsellor

🔽

⏻ Turn On Push Notifications

Tips come from trained counsellors/psychoanalysts
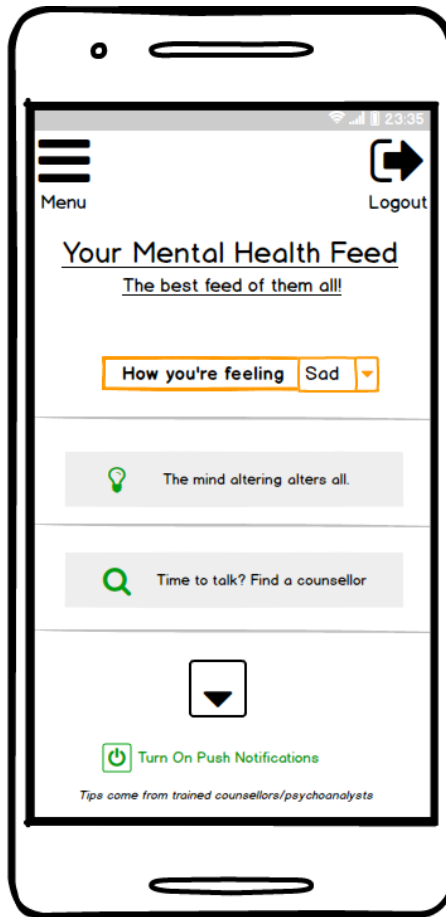
The User's Mental Health Feed. This is where they
receive tips and advice based on how they feel.
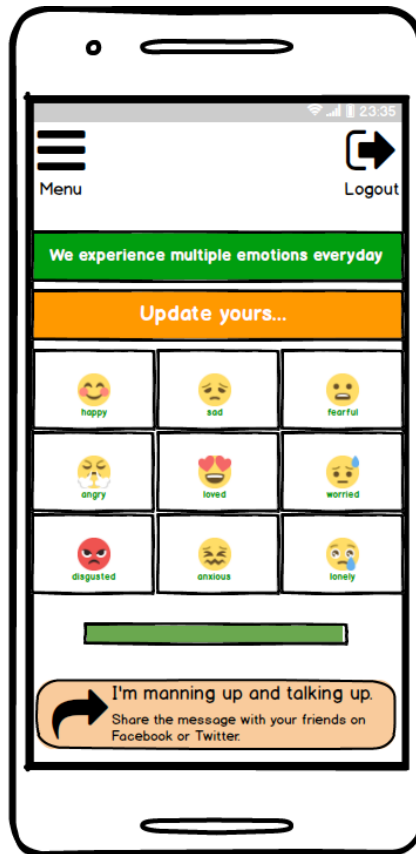
This is where the user can change their emotion. They may want to do this to change the type of content that they see on their feed and through push notifications.

Menu

Your Feed

Update How You Feel

Share the message

Turn on Push Notifications

Find A Counsellor

Break New Ground?

Your Journal

Set A Reminder?
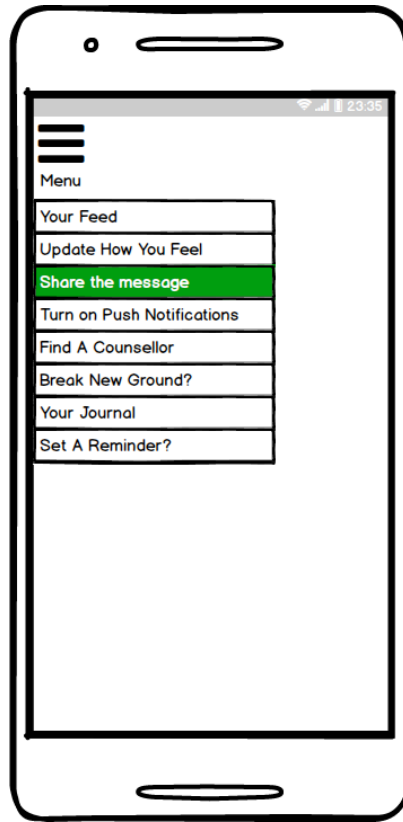
Example of the slide out menu and all the primary navigation options.

Find a counsellor in your area through Google Maps. It's good to talk, take that step.

Your Location

Counsellors in your area
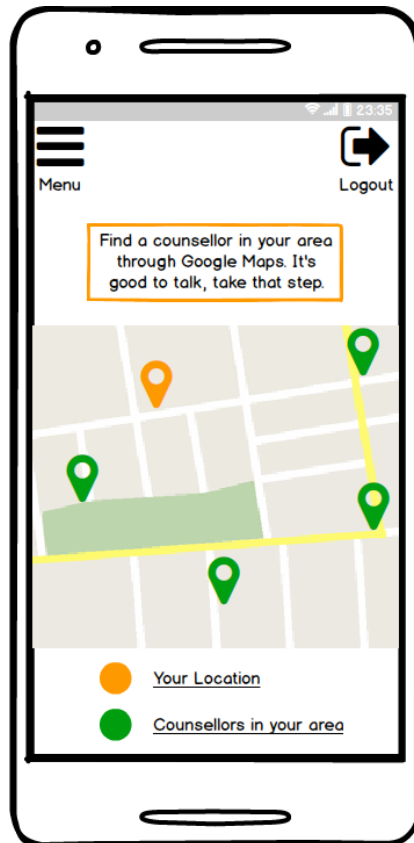
This the page that will be integrated with Google Maps and will show the user a list of counsellors in their area based on their location. Markers will have active listeners to them to trigger information windows within Google
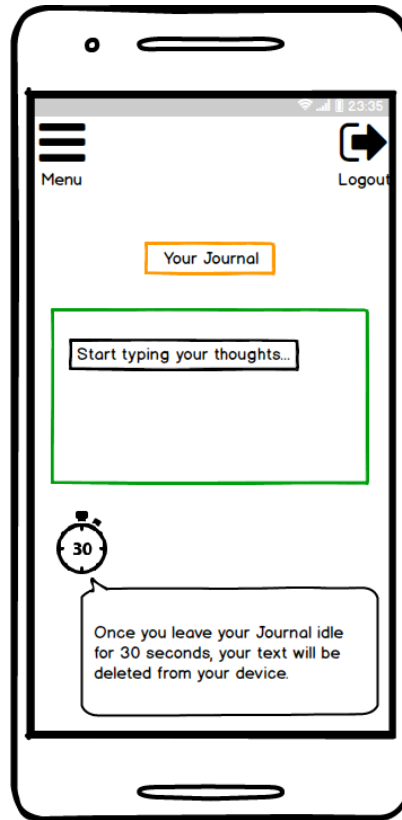
A common therapeutic exercise that can help people who want to change the way they think or focus on thought patterns, is to write down your thoughts on paper. Like that, this page on my application, will be a snapchat-style journal where users can type their thoughts. Once the journal is left idle for 30 seconds, the user's text will be deleted. The text they input will not be stored on the phone – this is to protect any sensitive personal information for users.
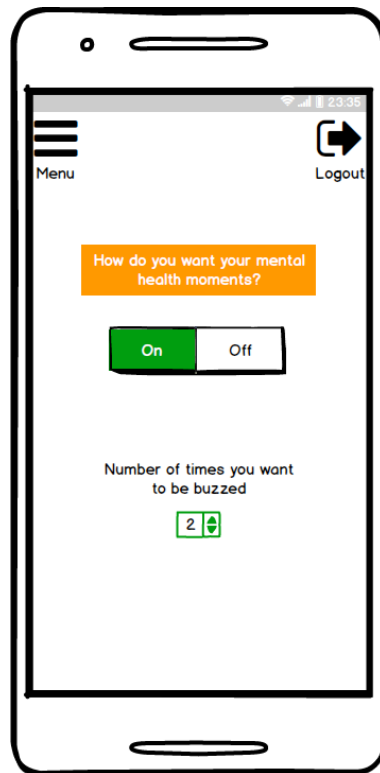
Here the user can specify how many times a day it would like its mental health moments (namely notifications)

How do you want your push notifications?

○ Random

○ By Emotion

On | Off
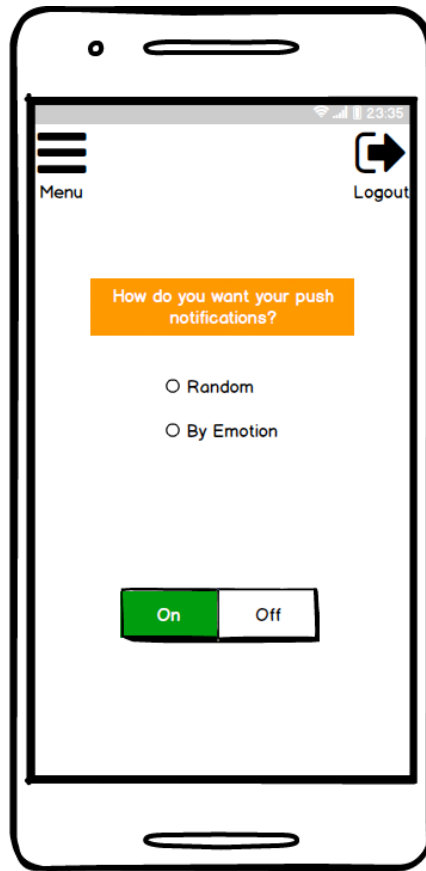
Here the user can specify how they would like their notifications – they have a choice in that they can have tips/advice based on their current emotion, or they can be served content tailored to

Notification example on user's phone

6.5 User Research

On the 8th of May I posted my application and some screenshots on Facebook to my friends. The purpose of this post was to invite people to come and suggest ideas on how they think the application could be extended and improved. Using this type of research earlier would have given me a good insight into what my initial target audience really needed from an application like this. The feedback, even from the few comments I received was helpful in many ways. It gave me new ideas

around the application's functionality going forward. Away from the technicalities of the application, some of the comments lead me to believe that there might be a worldwide appetite for an application like this, and that I may need to rethink my target audience and messages in the future.

Part 1 of the post

David Mc Evoy added 2 new photos.
Yesterday at 7:57pm · 🌐 ▼

I'm building an Android App at the moment that tries to help people with their mental health and help them learn new ways to think differently. I'm a few months into the build now, but if there is anyone who might be up for reading the details around the App below and letting me know if there is anything that they would find helpful/useful with an App like this, please let me know. Would love to build on this. Thanks. 😊

Man Up, Speak Up is an application that I have building over the last few months as part of my final year project for a BSc in Computer Science. For the initial idea, and to get me thinking about a particular audience I wanted to target, the application was geared towards Irish men, but I'd welcome feedback from both sexes. The application uses emoticons to present a welcoming interface to the user. Once an emoticon is chosen, the user is brought to a news feed where they receive tips, links and images that might help them to deal with the emotion. For now, most of the text is placeholder text as I am not qualified. Other planned features of the app includes:
- Google Maps to locate counsellors in your area
- A Snapchat type notepad where you can vent to your hearts content and all the text is deleted when the phone is left idle after a certain timeframe
- Push notifications based on the users' current emotion

Part 2 of the post

An Android App helping Irish men talk about their mental health and learn new ways to think differently.

Some comments

Bonnie Harp · Friends with Tara Giddens
This is a fantastic idea! Toxic masculinity is huge in this world and I love seeing something that addresses men's fears of getting help. The idea that there is some self help before seeing a counselor would likely be very welcomed as a first step. What makes it for Irish men and not Western men in general?
Like · Reply · 👍 1 · Yesterday at 9:04pm

David Mc Evoy Hi Bonnie. Thanks for the comment. I agree totally regarding it being a viable stepping stone that might make it easier to get professional help or even help to break the taboo that surrounds it. Nothing really makes it for an Irish male audience other than the color scheme. 🙂 I'm an Irish student and just picked Irish men as the target market while the application is in production. If it was to be released on the Google Play Store I might have to rethink the pitch to Irish men only. 🙂
Like · Reply · Yesterday at 9:13pm

Write a reply...

Giancarlo Antonio Luongo What about if the person "doesn't know how they feel".
What about having an option for that and through a decision tree, your app can find out a bit more from the person? Eg. If a person clicks that option, the app will ask a couple of questions to which the user will answer yes or no and at the end of a series of questions the app will give some advice.

A lot of times a person facing depression or anxiety for instance, won't be able to pinpoint how they feel and may have difficulties to pinpoint it to one of these 9 emoticons.

Like · Reply · 👍 1 · 14 hrs

> **David Mc Evoy** Hey Giancarlo. Yep, I agree. There could be multiple emotions involved, and in some ways, maybe being presented with only 9 emotions, or even being asked to choose, wouldn't be the best idea for a user looking to get help with their mental health. Very good idea, and I think there could be a lot of scope to give the user an alternative (maybe a 'meh' emoticon) that would bring them through a few questions that might determine the feed and content they receive.
>
> Like · Reply · 👍 1 · 8 hrs

Kendra Leigh Anyan Pinkelman · Friends with Tye Giddens
This is a great idea! There are apps out there for mental health but they are not this inclusive (with regards to the goal of the app, some are focused just on mindfulness, some on symptom tracking, etc). Off the top of my head I would recommend putting a tracking system in the app so they can look at the month and see the pattern of their moods. This may help them identify triggers as well as maybe an episodic mood disorder (like bipolar). Also, look into cognitive distortions and when they choose a mood have some distortions pop up as a suggestion to see if they have been using it and prompt them to reframe it to be more rational. I shouldn't be helping with this, it decreases my job security 😊 If you ever want to consult with a professional in the field on a more extensive level, feel free to PM me!

Like · Reply · 👍 2 · 20 hrs

> **David Mc Evoy** Hi Kendra. At a high level, I hope to do something similar with the application where changes in users' emotion are time-stamped and tracked. With regular use and change in emotion, this might provide valuable insights to a professional like yourself. Thanks again for the encouragement and offer.
>
> Like · Reply · 8 hrs

> Write a reply... ☺ 📷 🗯

Daithi Mills Davey, great work. Really impressed.

Question: is there a way for people using the app to connect with each other and share their experiences/techniques/stories?

Like · Reply · 👍 1 · 14 hrs

> **David Mc Evoy** Hey dude. Other than the planned sharing facility within the application where users can promote their use of the app on Facebook, there is no real dynamic way (yet!) where users can connect with each other. Good idea. Personalizing the application has been talked about, and this would extend to giving users the ability to interact with their friends or other users. This sharing aspect to the application would benefit users and what they get from the application for their mental health.
>
> Like · Reply · 👍 1 · 8 hrs · Edited

> **Daithi Mills** Agreed. I think what would be nice from an app like this that deals with Mental Health, is that it encourages or facilitates some sort of on-the-ground activity, that for example there's an option for a user to arrange a 'Speak Up Meet Up' locally. You could partner with certain cafes, or restaurants where the gatherings get special deals or discounts which would also be good PR for the businesses who will appear to be contributing not only to the support of an issue, but also contributing to society locally.
>
> Like · Reply · 👍 1 · 6 hrs · Edited

> Write a reply...   😊 📷 🙂

Derek Gordon Really good idea dave, im well impressed. You have a lot going on there regarding the functionality.

Like · Reply · 👍 1 · 22 hrs

> **David Mc Evoy** and the colors?
> Like · Reply · 👍 1 · 22 hrs

> **Derek Gordon** hahah thats what i was most impressed about..ur an artist 😊
> Like · Reply · 22 hrs

> **David Mc Evoy** Derek Gordon hah!
> Like · Reply · 22 hrs

> Write a reply...   😊 📷 🙂

Ali Tope This is amazing! And it would be so useful to everyone I think.
Like · Reply · 👍 1 · 21 hrs

Tye Giddens Kendra Leigh Anyan Pinkelman might be able to help. She's legit.
Like · Reply · 👍 1 · 20 hrs

> ↳ David Mc Evoy replied · 1 Reply

David Mc Evoy added 2 new photos.
Yesterday at 7:57pm ·

I'm building an Android App at the moment that tries to help people with their mental health and help them learn new ways to think differently. I'm a few months into the build now, but if there is anyone who might be up for reading the details around the App below and letting me know if there is anything that they would find helpful/useful with an App like this, please let me know. Would love to build on this. Thanks. 🙂

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- Google Maps to locate counsellors in your area
- A Snapchat type notepad where you can vent to your hearts content and all the text is deleted when the phone is left idle after a certain timeframe
- Push notifications based on the users' current emotion

👍 Like   💬 Comment   ➤ Share

Joanne Nearly, Susan Vickers and 51 others

6.6 Future User Research

- Surveys
- Interview Friends
- Speak to counsellors
- Provide great content

- Share regularly and widely
- Share the message
- Do user testing
- Use partner company to conduct research