THE MIND MANIFESTO

Team 52: Jaromir Latal & Lambros Zannettos

Client: The Mind Manifesto

(Imran Ahmad, Terry Hall)

Supervisor: Dr. Yun Fu

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3. Abstract

The application we were asked to develop is meant to provide people escape from every day's routine by providing them with multiple guided and unguided meditation courses (or "interventions", as defined by client). The target user of this application is a busy person, who is likely to be overwhelmed and stressed; thus this application will allow him to slow down and relax. The application should be simple to use, including the UI and the user should be able to see how much time he has left and be able to jump to any place he wants. Another possible functionality is to provide user reminders / notifications that he has broken his meditation streak and should start over.

4. Context

4.1. Project Background

The Mind Manifesto (MM) is a set of toolboxes to help people improve their well-being and counter the negative effects of anxiety and stress in today's hectic environment. The toolboxes are meditation tracks focused on certain areas of our lives, such as work, health or relationships – areas which have the greatest influence upon us.

Our clients, Imran Ahmad and Terry Hall, have asked us to create the mobile version of The Mind Manifesto, so that the interventions are available offline and on-the-go. This is meant to accompany the main version of The Mind Manifesto, which is currently available as a web application.

4.2. Problem being solved

According to (Lu, 1999), "stress has become one of the most serious health issues of the twentieth century – a problem not just for individuals in terms of physical and mental disability, but for employers and governments who incur significant financial damage." (Hassard, et al., 2014) reports that in year 2012 the costs calculated in the EU were €20 billion a year, a figure which has almost doubled since then; (Blanding, 2015) estimates the figure for US up to $190 billion dollars.

It has been thoroughly researched that meditation is effective at mitigating the effects of stress - (Black, Manocha, Sarris, & Stough, 2011) report that "meditation, …, is a safe and effective strategy for dealing with work stress and depressive feelings"; (Astin, 1997) concludes "techniques of mindfulness meditation, …, may represent a powerful cognitive behavioural coping strategy".

This is in conjunction what our application is aimed at – to help people in high-stress work environments, such as doctors or lawyers, cope with stress by listening to the series of guided meditation tracks.

5. Team Roles and Skills

5.1. Jaromir Latal

- **Team Role:** Team Leader / Project Manager, Lead Interviewer for Requirements, Lead Tester
- **Key Skills:** I am proficient in Python, as it is the first programming language I have taught myself and have used it during multiple projects and programming competitions. I have also familiarity with C++ and Java due to taking International Baccalaureate Computer Science course.
- **Prior Project Experience:**
  - Machine Learning project in Python (scikit-learn) to predict stock prices
  - Patients Database in Java & MySQL for a child doctor
  - Educational Math Game written in Java using Swing GUI library
- **Communication & Teamwork:** Debating for 3 years have given me the opportunity to respect others' opinions and approach them neutrally, finding the best possible solutions for multiple parties. Working as a Software Engineer in the largest agricultural software company in Slovakia provided me a plenty of opportunities to improve my teamwork and communication skills.

5.2. Lambros Zannettos

- **Team Role:** Lead Software Engineer & UI Designer
- **Key Skills:** I am proficient in Android development/Java (Android Studio), as I have completed several online courses leading up to the App Project (at Coursera and Udemy). I have also become familiar with C, HTML and JavaScript as part of the course.
- **Prior Project Experience:**
  - Browser-based educational game to teach Python written in JavaScript and the EaselJS set of libraries.
  - Machine Learning project to predict susceptibility to UV radiation, using MS Azure ML Studio.
- **Communication & Teamwork:** Prior to this course, I was a full-time self-employed musician/composer for several years. The nature of my work was highly collaborative, as creative projects often are. This along with being part in many amateur and professional bands over the years, and my national service experience before that, has taught me to listen to others with as little personal bias as possible, and always strive to make the best decisions to benefit the project/end result.

6. Requirements

After being introduced to the project & client by Dr. Yun Fu, we discussed with our team possible scopes of the application. For this we researched current applications on the market (for Android and iOS) in order to prepare ourselves better for the upcoming meeting with the client. Our client sent us specifically three to have a closer look at – *Calm, Headspace and Insight Timer.*

6.1. Initial questions

During the first meeting with the client we asked following questions to know the size and the scope of the project, as well as any preferences client has for the platform / technologies and design.

- What is exactly the project about?
- What platform would you like to target? Are there any preferences?
- Are there any technologies / languages / frameworks we are expected / asked to use?
- Details about the application and its functionality:
    - Do you have any specific UI design in mind?
    - What features are required for the core functionality?
    - What are the additional features we might implement?
    - Should it be on-line / off-line application? (e.g. tracks stored remotely)
    - Should the application feature in-app purchases as well?
    - Should the user have some settings available?
    - How many songs do you plan the app to hold? (relevant for off-line version)

6.2. List of requirements

Based on the client's answers to the questions, we drafted a list of requirements in MoSCoW (Must-Should-Could-Would) style, splitting the requirements into 4 categories based on their importance for the success of the project. After meeting with HCI Teaching Assistant Aisling O'Kane we finalised it and have it approved by our client.

Must have - What must be delivered, i.e. it is essential for this phase?
- Capability to play mp3 files stored locally on the device, including common media functions like play/stop/pause.
    - Complete: Media player and all its functions work as intended.
- Ability to detect connected headphones as the content is to be listened to via headphones only.
    - Complete: Media player displays a message to the user that for best experience headphones should be plugged in.
- Minimal, simple and intuitive UI design.
    - Complete: The design was rated well by both client and users.

Should have - What should be delivered as a high priority but not essential?

- A reminder function by which the app reminds the user to take some time to meditate. This could be either at random times or at specific times each day.
- Skip forward/backward buttons that skip a set number of seconds.
  - Complete: The skip time in seconds can be set in settings.
- A big countdown timer signifying the time left in a session.
  - Complete: The users is being shown the time left on the music player screen.

Could have - What could be delivered if there was available time / budget / resource?
- A store part of the app, where the users can buy and download new content.
  - Incomplete: Pushed back into next version after discussion with client.
- Translatable (this is easy to implement so could also belong in the Must list above).
  - Complete: Application is localised into user's system language.

Would have - What would be delivered if time / budget / resource was unlimited?
- Intelligent reminder that detects habits and breaks them.
  - Semi-complete: Not possible in the time-frame given, however logging for users' action is present.
- Payment integration for new interventions in the application
  - Incomplete: Not enough time and issues present with testing in Google Play Store.

6.3. Design

The client has asked us to deliver a minimal, simple and clean UI, so that the application will not be cluttered and every first-time user will immediately know where to click. We created a functional UI prototype independently and compared it to the client's sketches, settling on the final design.
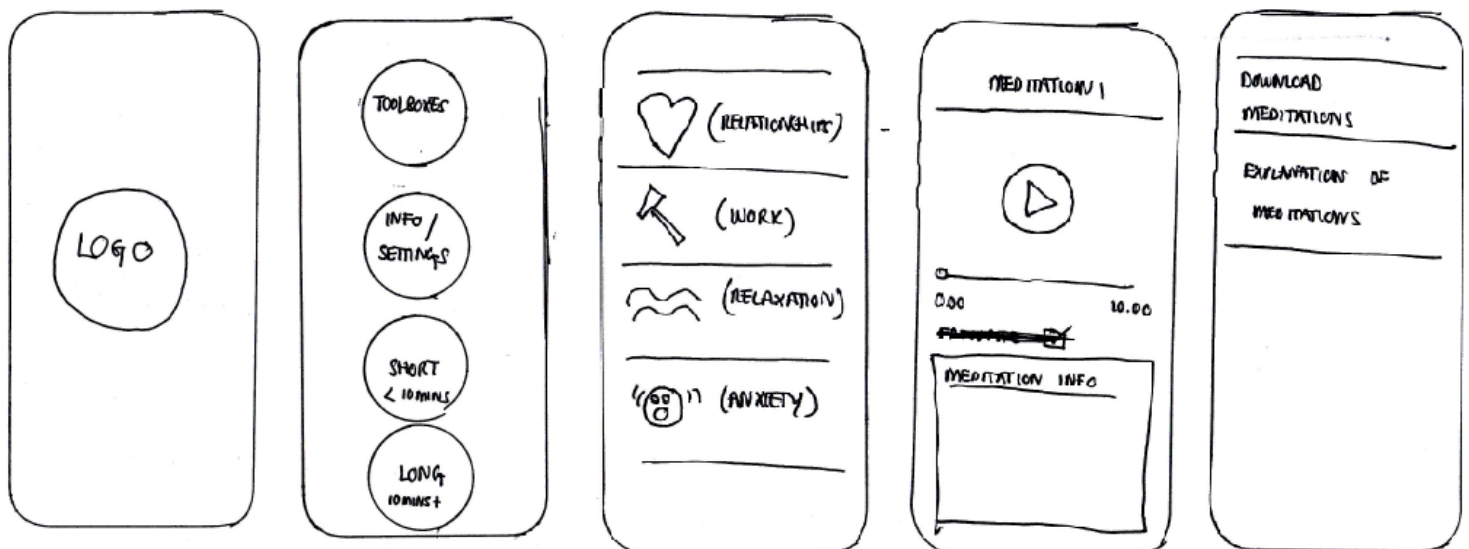
Figure 1: *UI sketches provided by client*
(from left: splash screen, main menu, toolboxes, media player, settings)

On application launch!

LOGO

Start/Pause

Time left
09:53

Title of Intervention
Description of Intervention

Start/Stop/Pause button text can be replaced with some universal symbol

Pressing the > button

Choose Intervention

1. ———
2. ———
3. ———
4. ———
5. ———
6. ———

Settings

Notifications:
• on • off

Add repeat/loop button

Scrollable list of available interventions

Scrollable list of simple settings

Help button

Figure 2: *UI sketch by our team*

Both UI mock-ups are quite similar – the menu is hidden from the user not to obstruct his view and design of media player shares the idea of a big button along with time remaining being shown in the session. We agreed on adding settings screen as a separate option in

the menu rather than having shown all the settings there. Based on this we settled on the final design, which is shown later in this report (Section 8.3), already implemented.

6.4. Use Cases

We carried out use case analysis in our project in order to better understand the system we will be building. It also allowed us to further look at our requirements and whether they can be refined better. We did so by illustrating interaction between the system (application) and its only actor – user.

Use Case (UC1) – Application is opened for the first time	
Primary Actor	User
Precondition	The application has not been opened yet.
Postcondition	The main menu appears and the tutorial screen will not appear anymore.
Main paths	1. User opens the application. 2. Splash screen appears for a few seconds. 3. Brief tutorial appears describing the application to the user and how to navigate in the application.
Alternative paths	None

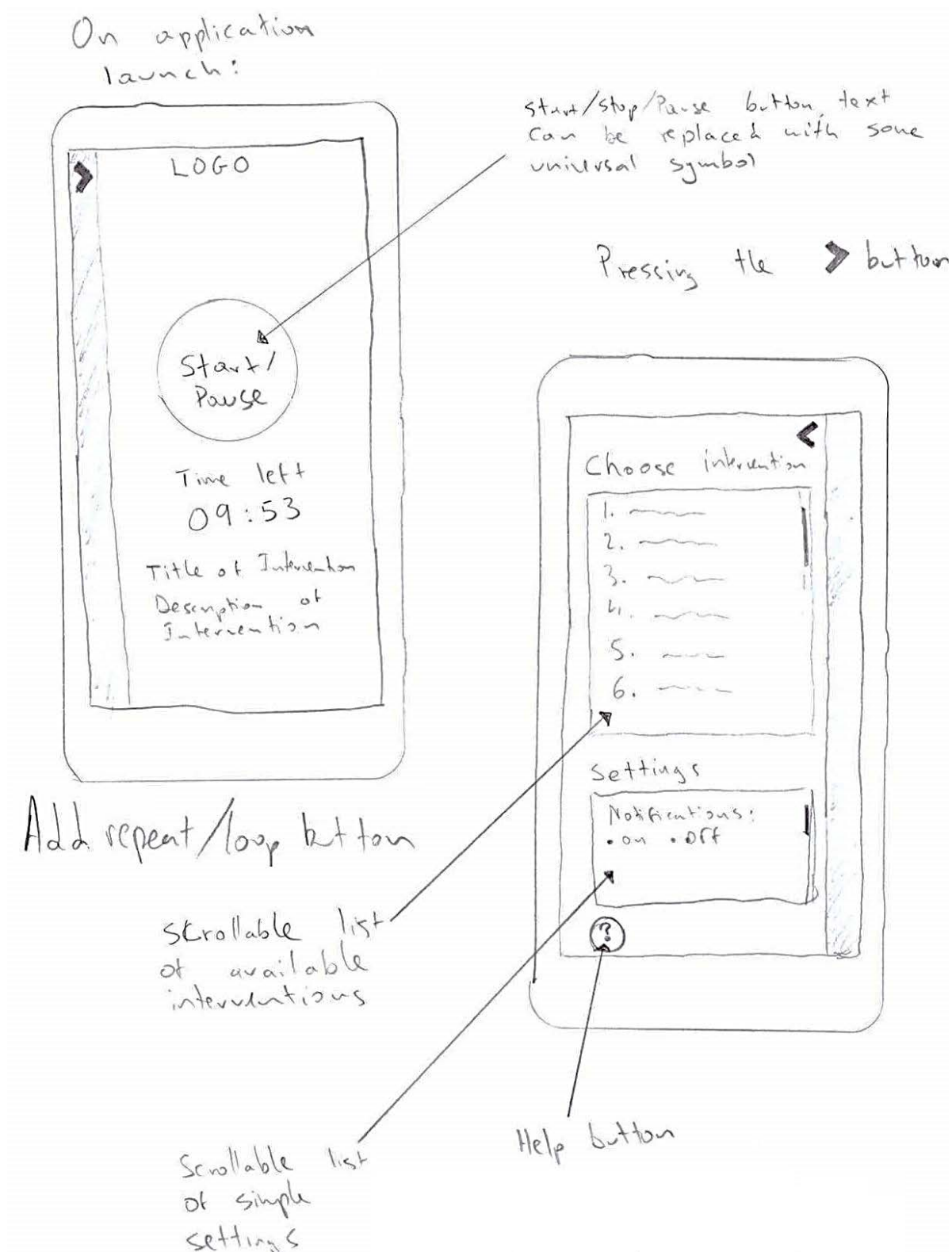| Use Case (UC2) – Application is opened	
Primary Actor	User
Precondition	The application has not been running.
Postcondition	The main menu appears.
Main paths	1. User opens the application. 2. Splash screen appears for a few seconds. 3. The main menu appears.
Alternative paths	None

Use Case (UC3) – A new intervention is chosen	
Primary Actor	User
Precondition	The application is running.
Postcondition	The chosen intervention starts playing.
Main paths	1. User selects the intervention's category. 2. User selects a specific intervention. 3. The menu is hidden and the player screen appears.

	4. The chosen intervention starts playing.
Alternative path #1	4. a) The intervention track cannot be loaded. 4. b) User is notified and returned back into the selection screen.

Use Case (UC4) – Intervention is paused or resumed	
Primary Actor	User
Precondition	An intervention has been loaded successfully and is playing.
Postcondition	An intervention is either paused or resumed.
Main paths	1. User selects the pause button in the player screen. 2. The intervention stops playing.
Alternative paths	2. a) The intervention has been paused previously. 2. b) The intervention is resumed.

Use Case (UC5) – Skipping to a certain part of intervention by scrubbing	
Primary Actor	User.
Precondition	The media player screen is active and an intervention is loaded.
Postcondition	The time position of the track is changed.
Main paths	1. User scrubs on the position slider using a finger. 2. Once the finger is released, the track jumps to the position. 3. Playback continues from the new position
Alternative paths	3. a) The intervention was paused before scrubbing. The playback does not continue until resumed.

7. Work Distribution

7.1. Jaromir Latal

- Add error handing
  - Complete: Error handling has been added to prevent user from seeing errors / notifications; all errors are being logged.
- Add usage logging
  - Complete: Google Analytics for Android has been used to monitor users' usage of the application.
- Fix bugs and issues found during the development
  - Complete: All reported issues on GitHub have been closed after being successfully solved.
- Refactor code
  - Complete: During the development we strictly adhered to OOP principles and made use of multiple design patterns.
- Test the application
  - Complete: The application has been subjected to multiple types of testing, including the issues and bugs found during development.

7.2. Lambros Zannettos

- Develop music player functionality
  - Complete: Implemented media player from scratch with cueing by desired time in seconds.
- Intelligent intervention filtering based on the category
  - Complete: After a category is chosen user sees only interventions belonging to that certain category.
- Getting metadata from interventions
  - Complete: Information about intervention are being read from an ID3 tag in the media file instead of being somewhere hardcoded.
- Changeable settings
  - Complete: User's settings are saved persistently on the phone.

7.3. Shared

- Produce bi-weekly reports
  - Complete: Bi-weekly reports have been filled in and submitted on time.
- Create an initial UI mockup
  - Complete: UI mockup has been completed based on the individual mockups created by each of us.
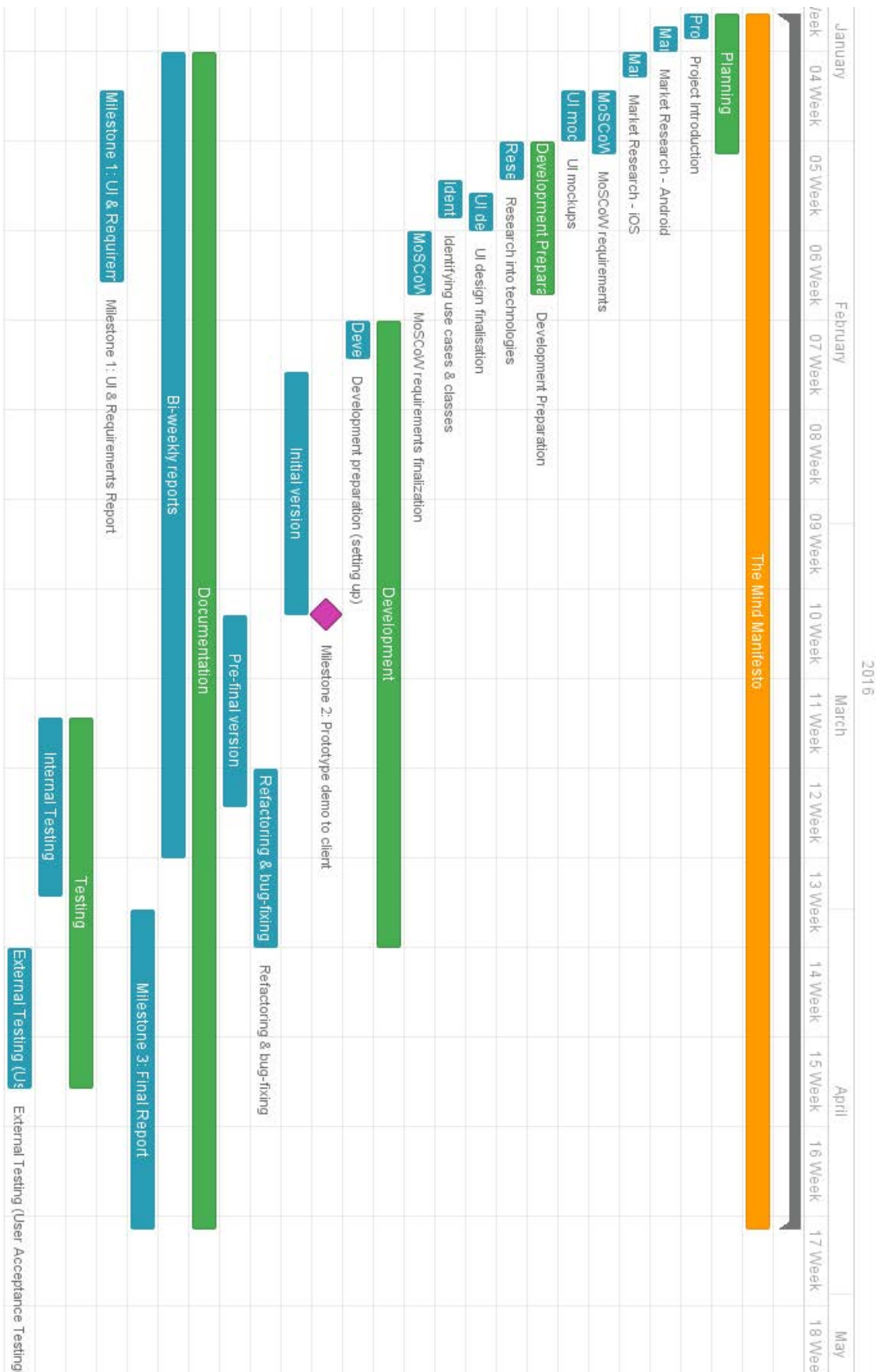
7.4. Gantt Chart

Figure 3: *Gantt Chart showing the schedule of the project*

8. Technical Design

8.1. Technology chosen

After having agreed with the client that we want to target **Android** platform due to number of devices on the market, we had to decide which technology to use. We considered the following two possibilities: **Android Studio** (native Android SDK – Software Development Kit) and **3rd party SDKs** (such as **Cordova** or **Xamarin**).

Android Studio is the IDE which provides access to Android SDK - a modified version of Java including Android features and Google APIs - used to develop native Android applications.

Xamarin is a cross-platform mobile development tool used to develop applications both for Android and iOS (in C#). Xamarin apps consist of two layers:

1. **iOS / Android** – containing the UI and application layers (written in C#)
2. **Core Library** – containing shared code such as business logic

Cordova is a mobile cross-platform application development framework for **Android**, **iOS**, **Windows Phone** and more. Development is done in HTML5, CSS3 and Javascript instead of platform specific APIs (such as the Android SDK), however it allows using native device APIs providing access to device's camera, file system and more.

Feature	Native app	Hybrid app	Web app
Development language	Native only	Native and web or web only	Web only
Code portability and optimization	None	High	High
Access device-specific features	High	Medium	Low
Leverage existing knowledge	Low	High	High
Advanced graphics	High	Medium	Medium
Upgrade flexibility	Low (Always by way of app stores)	Medium (Usually by way of app stores)	High
Installation experience	High (From app store)	High (From app store)	Medium (By way of mobile browser)

Figure 4: *Main differences between native and hybrid development (IBM, 2012)*

We decided to utilise the native **Android SDK**. The reasons were the following:

1. Using native APIs guarantees the look-and-feel will be the same on every device for the given platform.
2. Since the application is meant to be used for a longer amount of time (for meditation), the web application could run out of the memory or be less responsive (O'Dell, 2013), possibly resulting in bad user feedback.
3. Going native guarantees future compatibility, as Android Studio always adapts to the newest **Android SDK**, however when a new version of Android is released, cross-platform development tools do not support it until an update is released.

8.2. Structure of the Application
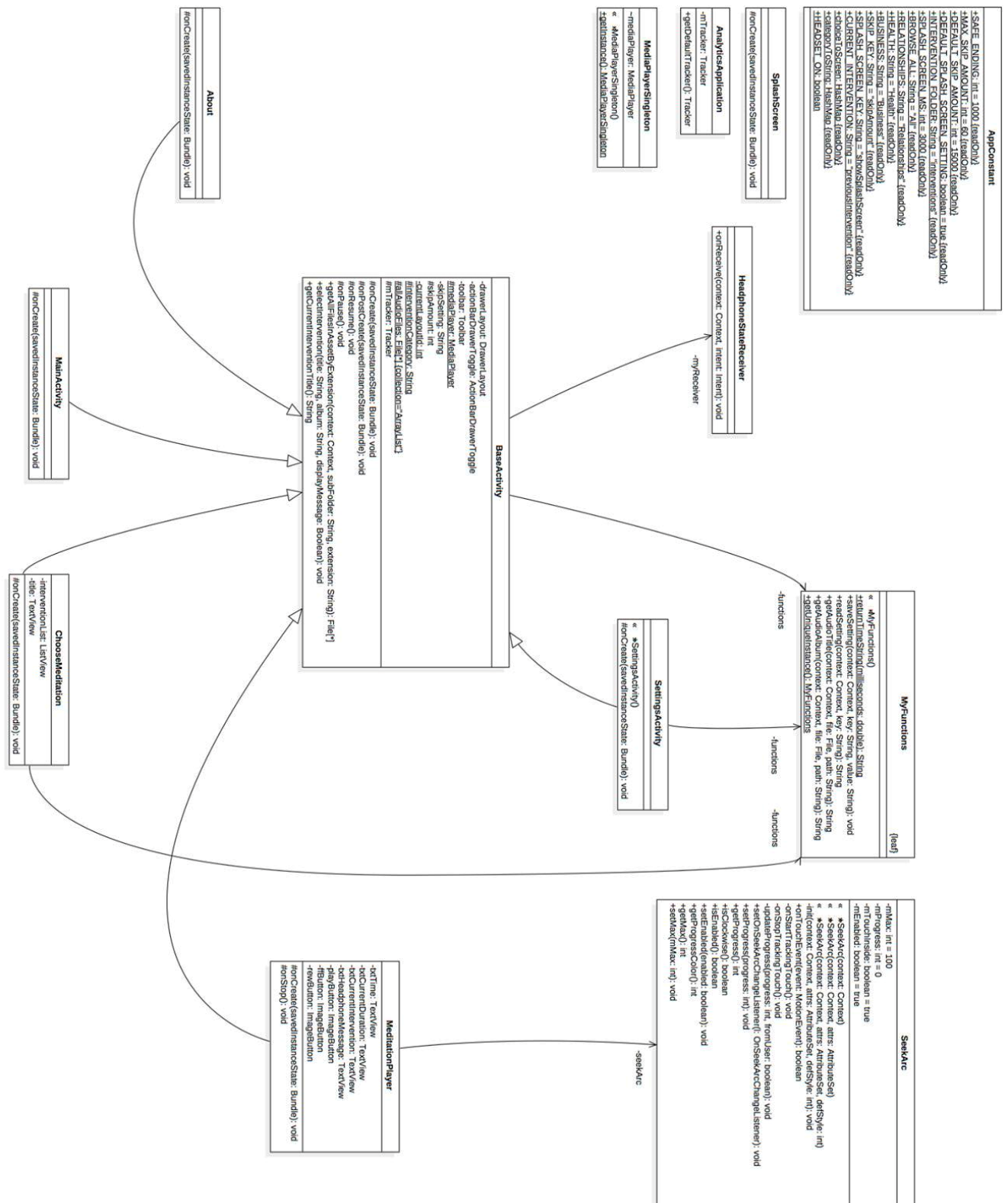
Figure 5: *UML Class Diagram of the application*

8.3. User Interface

We designed our user interface so that it is intuitive to use – it consists out of simple design blocks (buttons, sliders, textviews) composed together for the best user experience. We aimed the app to be easy to use for everybody without having to read a manual or spend a long time in the application, discovering all its features.

Figure 7*: Splash screen during loading* **Figure 6:** *Initial screen – music player*
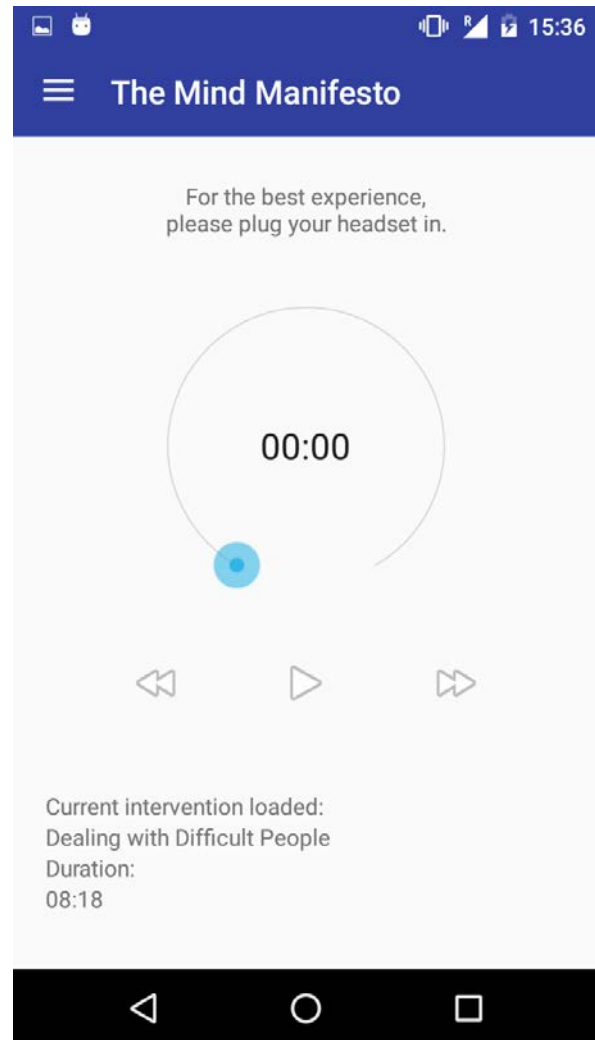
When the application is launched, the splash screen is shown (Figure 7) during which the files needed for application launch are being loaded. Afterwards the user is shown directly the media player (Figure 6) with one of the meditation tracks loaded, so that he can try out the application directly.
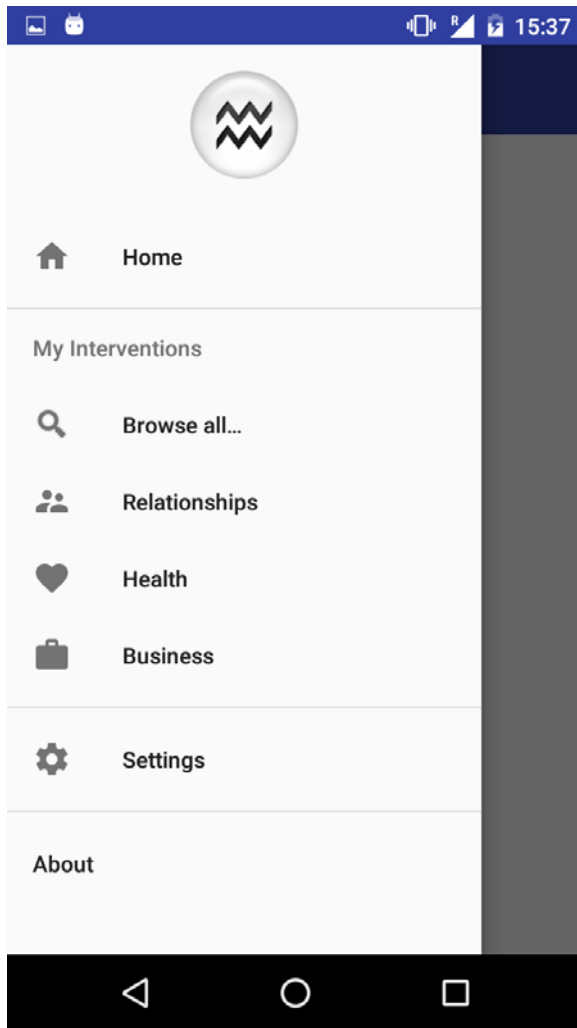
Figure 8: *Application menu*
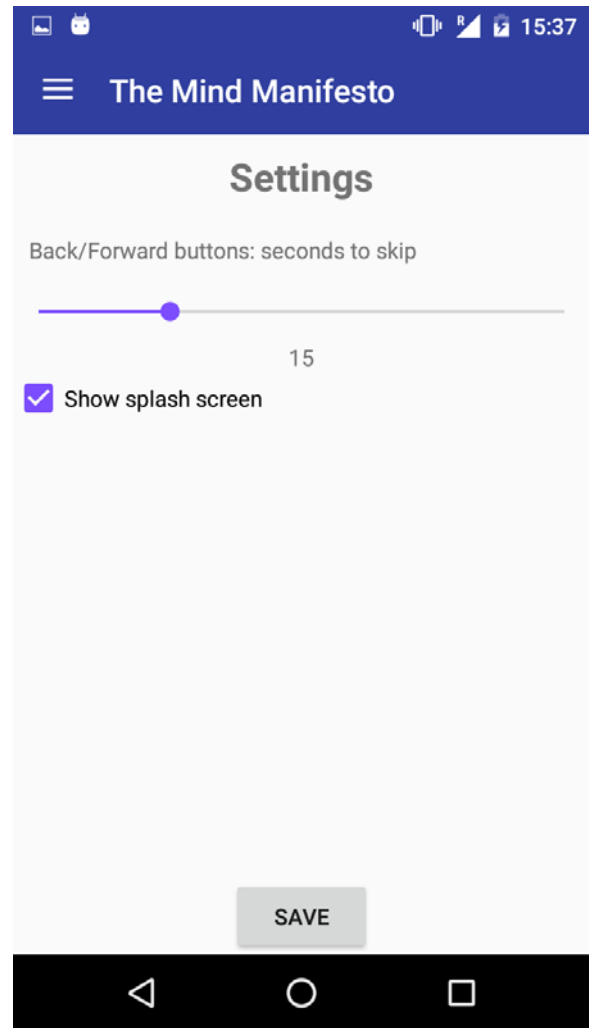
Figure 9: *Settings screen*

The menu can be accessed by swiping from the right edge of the screen. It contains basic options, namely main screen (where the media player is located), interventions available in the current version (split into their own categories), settings screen in which the user can alter the amount of time he wants to cue forward or backward and whether the splash screen should be shown.
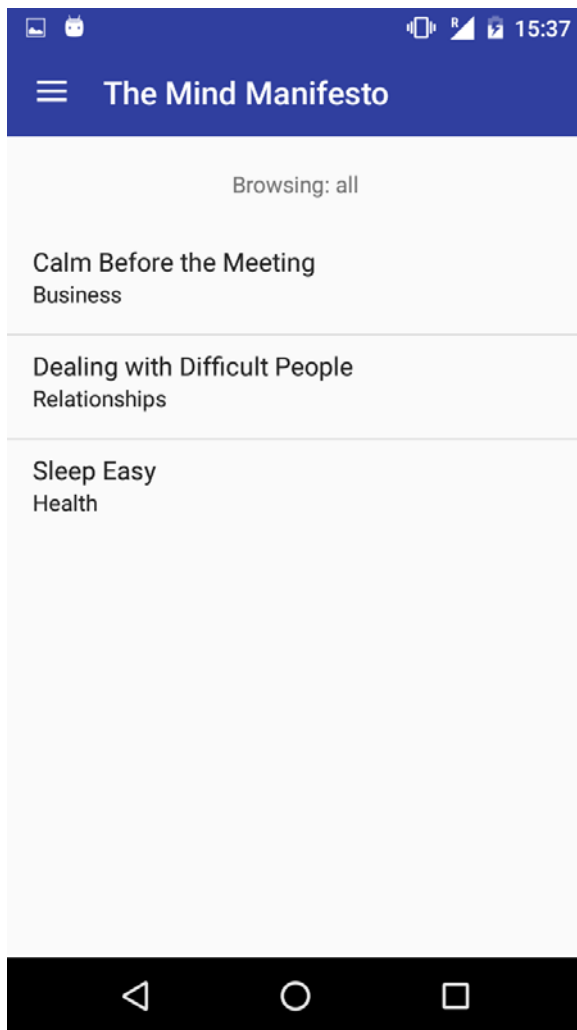
Figure 10: *Categories (All) screen*
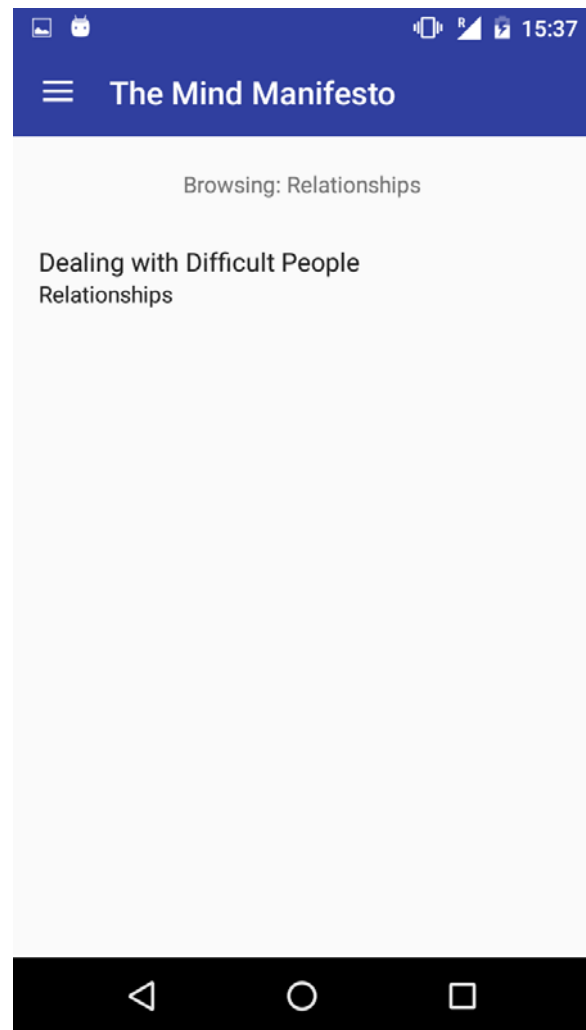
Figure 11: *Categories (Relationships) screen*

In order to play an intervention, user has to choose the category he wants to listen to and then choose a specific intervention out of the list. There are two types of categories: all, where all the interventions in the application are available or specific, such as Relationships, Health or Business, where only interventions belonging to this specific category are shown.

8.4. Design Patterns

8.4.1. Singleton

The Singleton pattern restricts the instantiation of the class to only one object, meaning only one instance of a class can be created, often being accessed globally.

Singleton has been implemented in our application in the `MediaPlayerSingleton` class. We decided to use so-called eager initialisation of Singleton, because our application will always need an instance (so that the `MediaPlayer` can play interventions in the applications). Moreover, the cost of creating one instance is not too expensive, which further affirmed our decision.

Using this design pattern ensured that the `MediaPlayer` instance always exists and that after changing screens the reference to the instance still exists, which is better rather than creating a completely new instance of `MediaPlayer` when a different meditation track is chosen.

8.4.2. Template

Template pattern is a behavioural pattern design, which defines the skeleton of the algorithm and defers some steps to the subclasses – they can re-define certain steps as needed without changing the algorithm's structure (which is common for all of them).

We made use of this pattern when creating items belonging to each category. While each category should have different items (some of them can be the same, e.g. a meditation track will be both in its own category and in all categories), the behaviour should be the same – when clicked the music player screen should be shown and the song played.

Usage of this design pattern allowed us to remove duplicate code which would have been otherwise needed for every item in the menu.

8.4.3. Observer

The Observer pattern is a behavioural pattern - when an object is modified, all other object depending on it (called observers) are notified automatically by calling one of their methods.

Observer pattern in our application is implemented in the `HeadphoneStateReceiver` class, which extends the built-in `BroadcastReceiver`. Once the headphones are plugged in, the `HeadphoneStateReceiver` receives notification from `ACTION_HEADSET_PLUG` listener and shows a notification to the user – to notify him that the headphones have been plugged.

8.5. External Software Libraries

During the development we used multiple 3rd party libraries as they provided functionality which could not obtained otherwise. Its usage allowed us to refine performance of the application as well as improve its design and usability.

8.5.1. SeekArc

SeekBar is an extension of ProgressBar that adds a dragable element, which can be used to adjust the current progress level. SeekArc is 3rd party library which extends the SeekBar – it wraps the SeekBar around in a circle.

We originally used SeekBar to allow users to change the current position in the song by scrubbing, however we decided to rather use the 3rd party SeekArc library. We had multiple reasons:

- SeekArc looks aesthetically much more pleasing than SeekBar and fills space better than SeekBar.
- SeekArc has resulted in better performance than SeekBar – after benchmarking we discovered updating song's position is smoother and without any stuttering.

Since the library used already deprecated API, we modified the library to adhere to the newest API available, making use of Android Support Library to support older devices.

8.5.2. Google Analytics

Google Analytics is an analytics service offered by Google that tracks and reports website traffic. It is provided in two versions – one of them Google Analytics for Mobile Apps, an SDK allowing gathering usage data from Android and iOS.

Google Analytics has been used to track and collect data about users' behaviour in the application, providing valuable information about how they use the application – based on the data it can be decided what categories are liked the most and the least, what meditation tracks are most popular – which can be then used to create content for future versions and provide tailored user experience.

We decided to choose Google Analytics instead of 3rd party tracking providers because Google Analytics is free up to 10 million requests / month and its integration into the application is much easier than using 3rd party providers, as Google provides their own library with all the documentation.

Figure 12: *Real-time overview of the application in Google Analytics*

9. Usage

9.1. Installation Requirements

The application can be installed on any Android device whose Android version is at least 4.0.3 (Ice Cream Sandwich) or higher. We decided to support all devices from this version onwards to have the highest market share possible (4.0.3 and newer devices account for 97.3% all Android devices (Google, 2016)), while making use of the newest features and libraries in the Android SDK.

Since the application uses features available only for Android 5.0 and newer, we make use of official Android Support Library in order to maintain compatibility with devices with Android version 4.0.3-4.4. (Google, 2016)

9.2. Building requirements

In order to build the application, simply open either *audava_meditation.iml* or *TheMindset.iml* using Android Studio. Once the project is loaded, the application should be built automatically using Gradle build system, which will download and compile all the dependencies of the application and run tests. Provided the testing has finished without any error, an *.apk* (Android package) file is built, which can be then installed and used on any supported Android device (outlined above).

The Gradle build script generates two *.apk* files in different configurations - Debug and Release. Debug build is a larger binary containing debugging symbols to make finding bugs and errors, as it allows getting log output from the application / device (Barth, 2015), while Release build disables getting the logs and obfuscates the source code in order to harden the application from Reverse Engineering. (analysing the compiled binary to obtain its source code)

Release build differs mainly in two things: it is also smaller, as unnecessary code is stripped off and the application can be signed with own certificate to ensure that the authorship can be verified and that any subsequent upgrades will be still installed as one package. (Google, 2016)

9.3. Obtaining Google Analytics ID

This application uses Google Analytics for Mobile Apps in order to track and gather data about users' behaviour. To enable tracking within the application, a configuration file needs to be generated at Google Developers - Enable Google services for your app.

After the application name and application's package ID have been entered, user is prompted to choose services he would like to add to his app. Google Analytics should be ticked and user should continue to *Generate configuration files*, where configuration file *google-services.json* can be downloaded.

The last step is to copy the *google-services.json* file to *app/* directory – afterwards the tracking will be functional after the application has been rebuilt.

10. Testing

10.1. Development Testing

During development we tested our application on multiple devices to ensure that it works as needed. We used following devices during testing (sorted by their Android version):

- Huawei Ascend, model number: Y330, OS version: Android 4.2
- Sony Xperia Z3 Compact, model number D5803, OS version: Android 5.1.1
- Motorola Moto G2, model number: XT 1068, OS version: Android 6.0

We chose variety of devices with different OS versions and screen resolutions to test the application on the widest range of devices as possible – Huawei Ascend has Android 4.2, which meant we could test whether the compatibility provided by Android Support Library is maintained.

Different screen resolutions were important for checking whether the application and all the graphic assets and UI elements (such as TextViews, SeekBars, Buttons) scale on different screen sizes to provide the best User Experience possible.

10.2. External Testing

We conducted a survey using Google Forms, in which we asked people with no previous knowledge about the application to try it out and provide their opinion – score out of five in following categories: Overall, User Interface, User Experience and Ease of Use, along with answers to whether they encountered any problems and what they would want in the future version of the application.

Thirteen people have filled the survey, resulting in the following ratings:
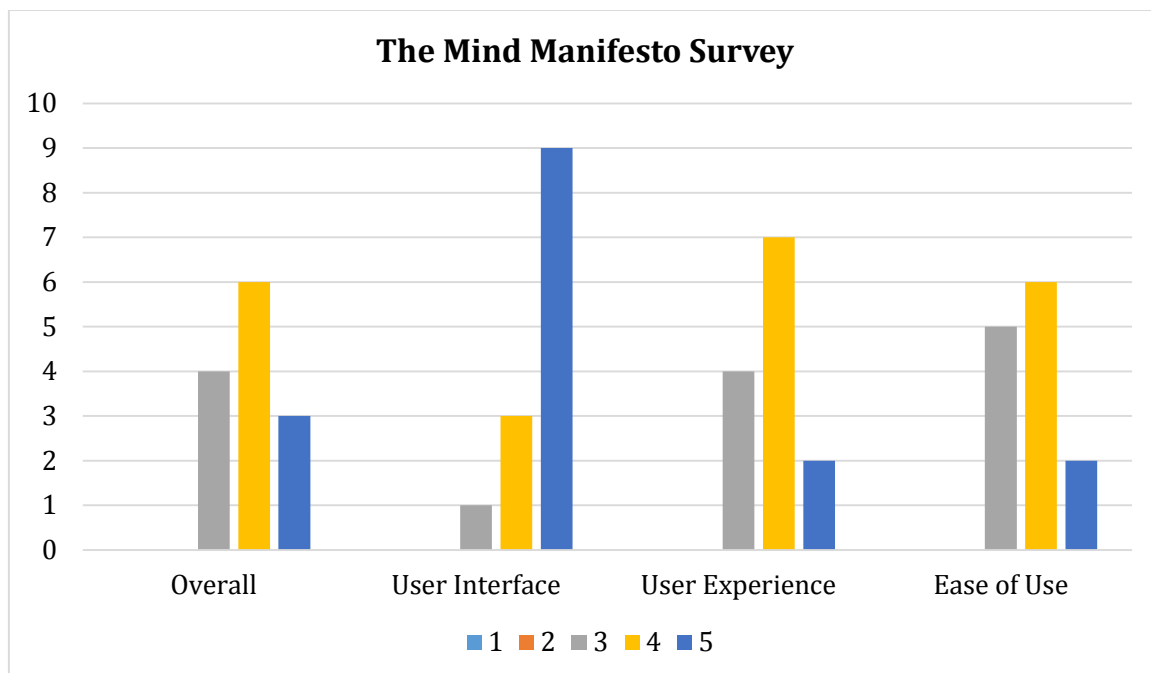
Figure 13: Results of the user survey

Looking at the results, it can be seen that the application has been rated overall positively by the users and that the User Interface design worked as we designed it – clear and concise. However, User Experience was rated as mostly positive and Ease of Use as mildly neutral, which got reflected on the recommendations for the future by users.

There have not been any reports of encountering problems whilst using the application, however the recommendations of the users were focused primarily on the following two areas:

- **Downloading new tracks through Internet** – users expressed that the application size could be smaller and new interventions could be downloaded through Internet, either for free or bought through Google Play Store.
- **Tutorial / Walkthrough how to use the application** – users reported that there could be a tutorial present in the application, e.g. when it is launched for the very first time.

11. Evaluation and Conclusion

11.1. Client Feedback

During the course of the development we stayed in touch with our client in order to update him on any progress as well as ask for clarifications on questions we had. We met with him few times to demonstrate him the current prototype version of the application and ask him for his feedback.

11.1.1. Mid-development Feedback

At the beginning of the March we met with the client to show him the latest version of the application – it lacked few features, such as being able to choose different interventions (we had only one from the client at that time), otherwise it was fully functional.

The client feedback was positive, they were satisfied with both the design and the functionality of the application. We were notified that the name of the application has changed from **The Mind Set** to **The Mind Manifesto** and that we will get the new graphic sprites as soon as possible.

11.1.2. Pre-Final Feedback

At the beginning of April we sent the client the pre-final version of the application so that they are able to test it in detail if it conforms to all their requirements.

The client feedback was mostly positive – we were said the application is looking good and that they are looking forward to the final result, however there were handful of changes to be made – we received the logo to be used for the splash screen, along with the colour scheme the application should have, the names of the categories should be changed to Business, Health and Relationships and we got few example interventions to be implemented in the application.

11.1.3. Final Feedback

In the middle of April we met with the client to demonstrate him the final version of the application, implementing all the important features. We planned the final meeting to be approximately two weeks before the deadline so that we implement the changes will have received from the client as well as fix any bugs or issues found.

The feedback received from the client was very positive – they liked the application's design and functionality, along with the extra Google Analytics integration we have implemented, as it will be useful for knowing what kind of things are the users looking for and whether they are finding what they want.

Here is their feedback verbatim: "I think you guys did a wonderful job because we asked for something simple and intuitive and this is exactly what it is. It looks simple like we wanted, clean, and all the functionality is there. Lambros and Jaromir were the consummate professionals. We found their attitude refreshing and positive and they were keen to tackle any issues we had. We wanted an app that was simple to use for all ages and for those who would not otherwise have thought of listening to music over the mobile phone, so we needed something that stood out and was attractive. They have patiently

run through the processes of its operations and have told us what they have been able to do and not do in the time provided. They have downloaded the app onto my phone and any updates will be advised to us."

We handed them all the important parts of the project – commented source code and documentation, describing the important parts of the project and how it can be further extended, i.e. adding new interventions or categories, tagging audio files or connecting the application to their own Google Analytics account.

11.2. Project Evaluation

The aim of our project was to develop a guided meditation application for Android from scratch. Judging the success of the project as a whole, the project can be declared as successful and the product built as fully functional and the application released as version 1.0.

Nonetheless there is a number of future improvements, such as:

- **In-App purchases through Google Play Store** – adding in-app purchases would be beneficial, as it would be the main revenue generating element for the application (provided it will remain free and without any ads). Moreover, In-App purchases would allow the application size to shrink when installed as interventions could be downloaded remotely.
- **Remote storage of interventions** – interventions present in the application could be stored remotely on a cloud storage (such as Amazon EC2 or Google Cloud), therefore the application size would be small when installed for the first time. However, in that case internet connection would be needed when launching the application for the first time in order to download the interventions into the device.

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13. Online Sources Used

How to detect if headphones are plugged in – we used this in order to display a message that the headphones should be plugged in as the interventions (meditations) are meant to be listened to only via headphones:

http://stackoverflow.com/questions/13610258/how-to-detect-when-a-user-plugs-headset-on-android-device-opposite-of-action-a

How to play MP3s in the Media Player – we used this to play the MP3s which are stored in the assets folder:

http://jmsliu.com/2499/play-mp3-in-android-tutorial-android-mediaplayer-example.html

https://developer.android.com/guide/topics/data/data-storage.html#filesInternal

Tag media files & store them in the */assets* folder – we used this to store the media files in the assets folder and store the information about them (such as name of the intervention and category) as an ID3 tag:

http://www.mp3tag.de/en/mac-osx.html

http://stackoverflow.com/questions/16795600/can-you-play-a-mp3-file-from-the-assets-folder

How to utilise the Navigation Drawer – we used it to display the menu as a drawer from the left, so that it is hidden unless the user wants to access it by swiping from the left side:

https://www.youtube.com/watch?v=mtOztjHmM0c&list=PLshdtb5UWjSp0879mLeCsDQN6L73XBZTk&index=76

http://stackoverflow.com/questions/36095691/android-navigationdrawer-multiple-activities-same-menu

Usng drawables and icons – to display them in the menu and as the application logo:
https://design.google.com/icons/index.html

http://stackoverflow.com/questions/5350624/set-icon-for-android-application

https://romannurik.github.io/AndroidAssetStudio/icons-launcher.html#foreground.type=image&foreground.space.trim=1&foreground.space.pad=0&foreColor=3f51b5%2C0&crop=0&backgroundShape=circle&backColor=3f51b5%2C100&effects=none

Using SharedPreferences to store the user settings on his / her device:
http://stackoverflow.com/questions/5950043/how-to-use-getsharedpreferences-in-android

https://www.youtube.com/watch?v=xv_JJbjDQ3M

Using ScrollView and HTML.fromHTML to display the About page in the application:
https://github.com/codepath/android_guides/wiki/Working-with-the-ScrollView

http://stackoverflow.com/questions/2116162/how-to-display-html-in-textview

Appendices
Appendix A – Minutes from Meetings
A1 Bi-Weekly Report #1

Overview:
During the first two weeks we established roles in the team, had an initial meeting with client and conducted market research on already existing solutions. Based on the latter two we drafted and finalised MoSCoW requirements. We went through initial UI design and discussed it with the client.

Meetings conducted:
22nd January - Meeting with team   Topic: Market Research
        We met briefly with my team partner and we discussed the possible scopes of the application after being introduced to the project by Yun Fu. We are supposed to create a guided meditation application – while I do not have any experience, my partner already has and showed me some of them on his phone.

Furthermore we decided to research the current apps available on the market (web, Android and iOS) in order to prepare ourselves better for the upcoming meeting with client – Jaromir looked at iOS and web applications, while Lambros at Android ones.

25th January - Meeting with team   Topic: Market Research
        For preparation we went over our research on the already existing solutions plus we took a detailed look at those our client sent us – *Calm, Headspace and Insight Timer*.

27th January - Meeting with client   Topic: Initial Client Meeting (Application)
        We had our initial meeting with our client in which we were introduced to the project in more detailed manner, including scope, users, requirements and its goal. We have been requested to build a guided meditation application for smartphones. We discussed client's ideas in conjunction with our backgrounds in order to be able to leverage our skillset most efficiently and decided on Android as it has more users than iOS plus development for Android is available without having access to a device with Mac OS X.

        We discussed possible features of the application and its design and agreed on exchanging possible UI mock-ups next week (1st – 7th February). As for future communication & contact, we agreed on using e-mail to contact each other and meet whenever possible and required.

2nd February - Meeting with team   Topic: UI mockups
        As suggested by HCI Teaching Assistant Aisling O'Kane, we prepared some UI mockups and compared them. These and namely the ones we will received from client will be used to design the UI of the application.

5th February – Meeting with team   Topic: Discussion of MoSCoW requirements

This meeting was primarily concerned with the discussion of the MoSCoW requirements and preparing their final version for the client. This was later sent to him in order to edit in any changes discussed and agreed on and to be able to finalise the report.

10th February – Meeting with Aisling O'Kane Topic: Finalise the MoSCoW and UI

At this meeting we discussed our progress so far, namely regarding the MoSCoW requirements report and UI mock-ups (both from client and ours). The Teaching Assistant confirmed that we are on the right track and that from now on we should identify the use cases in our project (based on the UI mock-ups) and common variables and data dictionaries.

Tasks completed

Number	Task	Status
1.	Research on already existing applications	Done
2.	Initial meeting with the client	Done
3.	Drafted & Finalised MoSCoW report	Done
4.	Created UI mock-ups and compared them to client's ones	Done
5.	Discussed our progress with HCI Teaching Assistant Aisling O'Kane	Done

Jaromir Latal

During the initial period I researched iOS and web competitors present on the market. I created the draft of MoSCoW report and finalised it using client's feedback. I was responsible for taking minutes this week.

Lambros Zannettos

During the first two weeks I had a look at Android competitors present on the market, creating a report presented to the client about the prices and the popularity of the applications. Furthermore I started to look into developing applications Android in order to prepare for the upcoming development.

Plan for the next 2 weeks

Number	Task	Owner
1.	Research into technologies available	Jaromir
2.	Create the final mock-up of app's UI	Lambros
3.	Finalise the project requirements	Both
4.	Identify classes and use-cases needed	Both
5.	Request sample recordings from the client	Jaromir

A2 Bi-Weekly Report #2

Overview:
These two weeks have been very productive. We researched all the possible development options and settled on using Android Studio and Java. We started creating the UI for the app and the basic functionality like menus. We also researched how some of the other Must-Have features can be implemented, like Media Player functionality, timers and saving settings.

Meetings conducted:
15th February – Skype meeting with team   Topic: Planning
        After having finalized the MoSCoW requirements at the end of last week, this meeting was used to discuss our plan for how to proceed with the project. We recapped what we need to achieve, and the methods with which we decided to approach this, and organised the resources (online lessons/guides/IDEs) required to do so. We decided to individually start experimenting with Android Studio and to keep each other up to date with our progress.

17th February – Skype meeting with team   Topic: Progress
        Last meeting was all about planning the next steps. This brief meeting was a catch-up, and we used the time to show each other what we have learned and any new thoughts we had about the process of development.

19th February – Skype meeting with team   Topic: Progress II
        Another progress report meeting. We both had enough time to explore Android Studio and start experimenting with different features and methods. This means that we have each identified potential difficulties and so much of this meeting was about preparing to tackle those issues.

22nd February - Meeting with team   Topic: Final UI discussion
        Based on the UI drafts that the client sent, and ideas discussed in the original client meeting, in this meeting we discussed options for the UI. The main issue discussed was the placement of the option menu. We have settled on a sliding menu that slides in form the left, over the main screen. This is not necessarily the final menu design, but implementing it then makes it easy to change it into another format later depending on client feedback.

25th February - Meeting with team   Topic: Use-Cases discussion
        We discussed and created several use cases to guide us in the creation of the first prototype. These describe basic functionality and navigation, and are based on our discussions with the client and our own research into other similar apps currently on the market.

26th February – Meeting with team   Topic: Classes

In this meeting, we created an outline of the functionality of the app using class diagrams/UML. This was really useful, as looking at the app broken down into smaller constituents gave us an even clearer view of what needs to be done and how to efficiently divide the workload between us.

Tasks completed

Number	Task	Owner
1.	Research into technologies available	Jaromir
2.	Create the final mock-up of app's UI	Lambros
3.	Finalise the project requirements	Both
4.	Identify classes and use-cases needed	Both
5.	Request sample recordings from the client	Jaromir

Jaromir Latal

I researched the technologies available for the development and researched sample recording from the client which will be used for the prototype demonstration. In addition I worked on identifying classes and use-cases needed.

Lambros Zannettos

I have spent the better part of these two weeks learning about Android development using Android Studio, via Lynda and Udemy courses, and also YouTube lessons for more specific features. I have put together a final mock-up of the app's UI which includes a sliding menu and a so-called "hamburger" button on the top left, as an extra way for the user to reach the menu. I researched libraries required to add media player functionality and started learning about timers. I was responsible for taking minutes this week.

Plan for the next 2 weeks

Number	Task	Owner
1.	Add media player functionality	Both
2.	Add more menu options	Both
3.	Finish the prototype	Both
4.	Present the prototype to UCL advances	Both
5.	Request the sprites from the client	Jaro

A3 Bi-Weekly Report #3

Overview:
During this week we made a significant progress on the development – we finished the media player functionality, added more menu options and most importantly – received feedback both from client and supervisor what to improve on. During next week we plan to tackle major usability functionalities, such as auto-scaling on all displays and robust error handling.

Meetings conducted:
29th February – Meeting with team   **Topic: Development planning**
          At this meeting we assigned roles during the development – Lambros will work on the media player functionality while I will work on translating the application into different languages. We decided on employing pair programming during allocated lab sessions so that we can solve problems easier.

2nd March – Skype meeting with team   **Topic: Progress**
          During this meeting we discussed the progress so far and set the goals we want to finish within this week. We planned what to tackle during next week – prepare for the demo of the application to our client (schedule a meeting) and our supervisor.

3rd March – Meeting with team   **Topic: Development**
          During this meeting we joined the allocated lab session in which we continued the development of the product – at the moment we are implementing the media player functionality into the application to enable implementation of the interventions. We were supposed to present the prototype but it has been postponed for next week.

9th March - Meeting with client   **Topic: Progress discussion, demo**
          During this meeting we demoed the application to our client – they were extremely satisfied, quoting: "this is exactly we wanted" and "nice, simple and clean UI." We agreed on sending them the .apk of the current version to provide us more feedback after using it and discussed the size of the media files - agreed on compressing them as much as possible. Lastly we have been informed that the name has changed to "The Mind Manifesto" and they will send us the graphic resources (sprites) as soon as possible.

10th March - Meeting with team   **Topic: Development & Feedback**
          During this meeting we showed the first prototype of the application and received feedback what to improve. We were advised by our supervisor to remind the client to send us the graphic resources and then to make a Gantt chart to be able to track our progress with development over time.

11th March – Meeting with team   **Topic: Further Improvements**

Today we discussed the current state of the application and worked on making it more modular – so that it is expandable in the future. We will take a look at the size of media files as well to find a suitable alternative towards the large size of the .apk file.

Tasks completed

Number	Task	Owner
1.	Add media player functionality	Both
2.	Add more menu options	Both
3.	Finish the prototype	Both
4.	Present the prototype to UCL advances	Both
5.	Request the sprites from the client	Jaro

Jaromir Latal

During this week I worked on polishing codebase and adding more menu options. I also researched error handling for our application. In order to manage our progress better, I started making a Gantt chart describing the current development goals and their status. I was also responsible for taking minutes.

Lambros Zannettos

I worked on making media player functional within the app – created the barebones version, added automatic timestamp update and rewind/forward by 15 seconds. I created basic graphic sprites for the application for the demo presentation.

Plan for the next 2 weeks

Number	Task	Owner
1.	Finish functionality of the menu	Lambros
2.	Ability to list all existing interventions in the application	Lambros
3.	Make the application scalable on all resolutions	Jaro
4.	Add error handling	Jaro
5.	Remove duplicate code	Both

A4 Bi-Weekly Report #4

Overview:
This week saw a significant improvement in how the app works internally. We implemented another design pattern, the Singleton, which allowed us to ensure that only one instance of the *MediaPlayer* object exists at any given time; this makes sure the state is saved and that no unnecessary resources are held up. Use logging, error handling and multiple media file functionality are also things we worked on this week.

Meetings conducted:
14th March – Meeting with team   **Topic: Progress**
       Continued to work on making different parts of the code more independent from each other. Extracted some functions and removed constant from code and into a constants class to better keep track of them.

17th March – Meeting with team   **Topic: Progress/Bug fixes**
       Worked on removing some bugs that had come up by testing on physical devices. These included things like the media player becoming disconnected form the media file it was handling.

18th March – Meeting with team   **Topic: Progress with menu**
       We managed to make the menu a little bit smarter, by making it check whether the menu option selected was actually the activity currently on display, and if it is, to just close the menu rather than reloading the activity needlessly. This immediately made the app run smoother.

21st March – Meeting with team   **Topic: Logging/Persistent data**
       Today we looked into different options for saving persistent data on Android. This will be relevant for us, not only for keeping the logs of the usage of the app, but also for saving settings, the state of the media player etc.

22th March - Meeting with team   **Topic: Singleton Pattern/Logging**
       Today we finalised the way the media player runs in the app. By using the singleton pattern the media player object is now instantiated only once and used across the lifespan of the app. This way it never loses its state. We also started working on logging functionality to provide stats for the client.

24th March – Meeting with team   **Topic: Logging/Settings**
       In today's meeting, we continued work on action logging and started working on a mechanism to handle multiple media files. As media files will potentially be streamed from a server in the future, we need to make this feature easy to plug in to for future developers.

Tasks completed

Number	Task	Owner
1.	Implemented the Singleton pattern for the media player	Lambros
2.	Started working on multiple intervention functionality	Lambros
3.	Further improved robustness of error handling	Jaro
4.	Started working on usage logging for client to analyse	Jaro
5.	Tested – removed bugs – tested – removed bugs…	Both

Jaromir Latal

During this week I worked on improving the error handling within the application, making sure all exceptions are processed gracefully and do not interfere with the functionality of the application. I researched on methods how to monitor usage of the application – which parts of the application are most popular, are used least often – characteristics describing how users interact with the application.

Lambros Zannettos

After reading up on the Singleton design pattern, I managed to implement it for the media player functionality of the app. I also started experimenting with different ways of handling multiple files.

Plan for the next 2 weeks

Number	Task	Owner
1.	Continue working on logging	Jaro
2.	Make preferences persistent/add settings screen	Lambros
3.	Work on final report	Jaro
4.	Implement ID3 reading capabilities (optional)	Lambros
5.	Further encapsulate code	Both

Appendix B – Client Communication
Client feedback after handover

From: Terry Hall <terryhall2@yahoo.co.uk>

Sent: 26 April 2016 10:11

To: Imran Ahmad; Zannettos, Lambros; Latal, Jaromir

Subject: Fw: The Mind Manifesto App

Hi Imran,

I told the guys I had lost their app on my phone and they asked if we would mind sending a few lines of feedback about their work on the app if you have time. Here's mine:

"Lambros and Jaromir were the consummate professionals. We found their attitude refreshing and positive and they were keen to tackle any issues we had. We wanted an app that was simple to use for all ages and for those who would not otherwise have thought of listening to music over the mobile phone, so we needed something that stood out and was attractive. They have patiently run through the processes of its operations and have told us what they have been able to do and not do in the time provided. They have downloaded the app onto my phone and any updates will be advised to us.

My colleague can give more information regarding the technical spec."

I am on my way down to Ticehurst, are you able to do it? Just a few sentence before midday would help them.

Thanks Terry

----- Forwarded Message -----

From: "Zannettos, Lambros" <lambros.zannettos.15@ucl.ac.uk>

To: Terry Hall <terryhall2@yahoo.co.uk>

Cc: "Latal, Jaromir" <jaromir.latal.15@ucl.ac.uk>

Sent: Tuesday, 26 April 2016, 9:50

Subject: Re: The Mind Manifesto App

Hi Terry,

That's a shame, I hope you haven't lost any data.

We can send you the latest version of the app, and we can perhaps talk on the phone later today or tomorrow and I can talk you through installing it again if you'd like.

Regarding the feedback, we are planning to submit our work around midday today; the feedback doesn't have to be much, just a few lines would be perfect.

Kind regards,

Lambros

On 25 Apr 2016, at 11:42, Terry Hall <terryhall2@yahoo.co.uk> wrote:

Hi guys

Just to let you know, my app was working fairly well until I got a virus on the phone. Avast scan protection deleted the MM app as a threat since it came from an unknown source. Is there a method of getting the updated version back? Thanks Terry

PS. We also know you want some feedback from us. When do you need this by?

Cheers Terry

Handing over the source code along with the documentation

From: Zannettos, Lambros
Sent: 18 April 2016 17:49
To: Imran Ahmad; Terry Hall
Cc: Latal, Jaromir
Subject: The Mind Manifesto - Files

Dear Imran and Terry,

Here are a few final details about the app which we think you will find useful. Please also find below a link to a Dropbox folder containing all the necessary files and documents.

Developer Documentation

We have put together a small developer documentation so that future developers of the project will know how some of the features of the app work in the background. Until then, this can also be useful to you as it describes how to add new categories and new interventions in the app, how the audio files should be tagged and also how to obtain the google analytics file needed for the app's logging capabilities (see below). If we find that we need to add anything to this documentation between now and our submission to UCL, we will send you the updated version.

Logging Capabilities

The app is capable of sending use-data to a connected Google Analytics account. We believe that this data can be really useful for you in the long run, as it reveals the way users navigate the app, which interventions they are listening to more, how long they spend on each screen or using the app overall etc. In the future, more things can be tracked, like what kind of interventions users are looking for and whether they are finding what they want.

Final Feedback from Client

If you can please send us some final feedback we would really appreciate it, both for our personal development and also to include in our final report to UCL regarding the project. This can include feedback on the app itself but also on our communication etc.

Here is the link to the app files, including source code and documents:

https://www.dropbox.com/sh/2hd2zm2t0f3187h/AABkWLuoxUc6Ze_BBNJJMUbma?dl=0

If you happen to find any bugs while using the app in the next few days, please feel free to let us know and we will do our best, time permitting, to fix things. Also feel free to get in touch with any questions regarding the app or the documentation.

It has been a pleasure working on this app, we have both learned a lot and we hope that you are pleased with the results.

Best of luck, we hope that the Mind Manifesto does really well!

Kind Regards,

Jaromir and Lambros

Team 52

Discussing the final meeting and handover

From: Zannettos, Lambros
Sent: 12 April 2016 16:41
To: Terry Hall
Cc: Zannettos, Lambros; Imran Ahmad; Latal, Jaromir
Subject: Re: The Mind Manifesto APK

Hi Terry,

Friday 10am sounds great, I will be there.

Kind regards,

Lambros

On 12 Apr 2016, at 13:20, Terry Hall <terryhall2@yahoo.co.uk> wrote:

Hi Lambros

At the moment, Friday morning seems fine. Can you get to the Ham Yard Hotel off Archer Street for 10am? It has an open courtyard area with wifi.

Thank you

Terry

From: "Zannettos, Lambros" <lambros.zannettos.15@ucl.ac.uk>
To: Imran Ahmad <imran@imranahmadmusic.com>
Cc: Terry Hall <terryhall2@yahoo.co.uk>
Sent: Monday, 11 April 2016, 10:00
Subject: Re: The Mind Manifesto APK

Hi Imran and Terry,

Have you got any feedback for us following your meeting on Friday? We are working on putting some finishing touches on the app, and making it even more stable, so this would be a good time to get any small changes in, or fixing any bugs if you have noticed any.

Would sometime towards the end of this week be good for you for the delivery meeting? Friday the 15th would be ideal, as that would give us more time to work on any feedback you have.

On behalf of Team52,

Kind regards,

Lambros

On 7 Apr 2016, at 11:45, Imran Ahmad <imran@imranahmadmusic.com> wrote:

Hi Lambros,

Thank you very much for removing the shadow on the logo. Terry and I are meeting on Friday so we will take a look at the app and get back to you with our comments over the weekend.

Best wishes,

Imran

--
Imran Ahmad
imranahmadmusic.com

On 6 April 2016 at 16:31:10, Zannettos, Lambros (lambros.zannettos.15@ucl.ac.uk) wrote:

Hi Imran and Terry,

We have made several changes to the app in the past couple of days, both aesthetic and functional.

Here's the latest version of the app, as always any feedback is greatly appreciated:

https://www.dropbox.com/s/0hh5263ns00iuqg/TheMindManifesto06042016.apk.zip?dl=0

As per our phone conversation the other day Imran, I have edited the logo by removing the incomplete shadow and adding a new shadow. I have also made all the white space in the shadow transparent so it blends in with the background. Please find attached two versions of the logo (one with and one without the shadow) for your future use.

On behalf of Team52,

Kind regards,

Lambros Zannettos

On 4 Apr 2016, at 21:39, Imran Ahmad <imran@imranahmadmusic.com> wrote:

Hi Lambros,

CATEGORIES

Please change categories to:

BUSINESS

HEALTH

RELATIONSHIPS

AUDIOS

I've sent you the following audios via We Transfer (file format: m4a 128kbps). Replace existing audios with the following:

1. Sleep Easy - please put in HEALTH

2. Dealing with Difficult People - please put in RELATIONSHIPS

3. Calm Before the Meeting - please put in BUSINESS

SPLASH SCREEN

Please make this an indigo background with the white logo in the middle.

Best wishes,

Imran

--
Imran Ahmad
imranahmadmusic.com

On 4 April 2016 at 12:50:10, Terry Hall (terryhall2@yahoo.co.uk) wrote:

This is sounding good fellas.

I look forward to seeing the overall finished result.

Thanks so much

Terry

From: "Zannettos, Lambros" <lambros.zannettos.15@ucl.ac.uk>
To: Imran Ahmad <imran@imranahmadmusic.com>
Cc: "terryhall2@yahoo.co.uk" <terryhall2@yahoo.co.uk>
Sent: Monday, 4 April 2016, 12:46
Subject: Re: The Mind Manifesto APK

Hi Imran,

Thank you for the logo and the mp3, I have used the logo in the current version I am sending now. I will update the colour scheme as well soon. Apologies about the apk, perhaps the extension got muddled up when I was renaming the file. Please try this:

https://www.dropbox.com/s/px3c6h5owgouwik/mindManifesto04042016.apk.zip?dl=0

That should be a zip file, containing an .apk file. If you have any trouble please let me know.

LOGO

A quick note regarding the logo: Android prefers .png files (which you can export from photoshop), and I think one reason is that png files can preserve transparency. For example, the logo you have sent has a lot of white, which would be better as transparent space, as that would mean the logo would work over any colour background (rather than carrying around a white box around it). Also, when you can, it would probably be best to export a bigger scale version, which also includes the full shadow since now it cuts at the bottom (as you will see in the splash screen). This would also ensure it looks good on a variety of screen sizes without stretching. Otherwise I think it looks great, we will try and use it within the app as well in a few discreet places.

Our final deadline is the 25th of April, but because of our exams and other earlier deadlines which are related to this project, we are hoping to finish and deliver the app to you sometime next week, as soon as all the main, 'must-have' features are finished.

My number is 07917823267, feel free to call me in the evening if that's possible, otherwise I can give you a call. What time would be good for you?

Regards,

Lambros

On 3 Apr 2016, at 22:31, Imran Ahmad <imran@imranahmadmusic.com> wrote:

Hi Lambros,

Thanks for sending the download link. It seems to be a BIN file. I tried downloading on an Android phone but there are no options to open it with anything.

LOGO

Please find attached the main logo. Please can you use the logo for the splash screen?

MP3

Here is the link to another mp3 meditation:

https://www.dropbox.com/s/x63z2ktyq3w7vwo/01.%20Sleep%20Easy.mp3?dl=0

COLOUR SCHEME

Also can you use the following colour (indigo) for the colour scheme: **#3f51b5**

When is the latest date we can make last changes?

Also can we talk over the phone tomorrow? Please send me your number or call me on 07967 329 802.

Best wishes,

Imran

--
Imran Ahmad
imranahmadmusic.com

On 3 April 2016 at 10:57:08, Zannettos, Lambros (lambros.zannettos.15@ucl.ac.uk) wrote:

Dear Imran,

Please find below a link to the latest, pre-final version of the app:
https://www.dropbox.com/s/u1x2ak4shmvoxs4/TheMindManifesto-030416?dl=0

All the features should be finished by next week, and we will be bug checking in the meantime, but do feel free to let us know if you discover any bugs while using the app.

Also, would it be possible to get any of the graphics and colour choices? We can then update the app for you. If we can also get another mp3 that would really help us
test some of the features of the app before delivery.

On behalf of Team52,

Best regards,
Lambros Zannettos

Bi-Weekly reports

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 01 April 2016 12:41
To: Latal, Jaromir
Cc: terryhall2@yahoo.co.uk
Subject: Re: Bi-weekly report #3

Hi Jaromir,

Sorry for the delay. I'll send graphics and mp3 by end of today. I'm meeting Terry today to go over the app. Please can you send me the latest APK file so we can play and test the functionality?

Best wishes,

Imran

--

Imran Ahmad
imranahmadmusic.com

On 31 March 2016 at 15:08:58, Latal, Jaromir (jaromir.latal.15@ucl.ac.uk) wrote:
Dear Imran,

I hope you are doing well. Is there any ETA on the materials? (graphics & mp3) The deadline is approaching soon (2 weeks) and we need to finish UI & key functionality based on the songs and graphic sprites.

On behalf of Team 52,
Best regards,
Jaromir Latal

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 23 March 2016 10:36
To: Latal, Jaromir
Cc: terryhall2@yahoo.co.uk
Subject: Re: Bi-weekly report #3

HI Jaromir,

Thanks for the report. I will send you graphics and another mp3 by Friday latest.

Best wishes,

Imran

--

Imran Ahmad
imranahmadmusic.com

On 18 March 2016 at 16:26:45, Latal, Jaromir (jaromir.latal.15@ucl.ac.uk) wrote:

Dear Imran,

please find the 3rd bi-weekly report attached. Could you please send us the graphic assets and another song?

On behalf of Team52,
Best regards,
Jaromir Latal

From: Latal, Jaromir
Sent: 08 March 2016 10:07
To: Imran Ahmad
Cc: terryhall2@yahoo.co.uk
Subject: Re: App development - Bi-weekly report #2

Dear Imran,

works perfectly, looking forward to see you.

On behalf of team 52,
Best regards,
Jaromir Latal & Lambros Zannettos

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 07 March 2016 18:25
To: Latal, Jaromir
Cc: Terry Hall
Subject: Re: App development - Bi-weekly report #2

Hi Jaromir,

How about we meet in the same hotel on Tottenham Court Road at 1.15pm on Wednesday?

Best wishes,

Imran

--
http://imranahmadmusic.com

On 7 March 2016 at 18:00:47, Latal, Jaromir (jaromir.latal.15@ucl.ac.uk) wrote:

Dear Imran,

how about Wednesday after 1pm, how does that work for you?

On behalf of Team 52,
Best regards,
Jaromir and Lambros.

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 03 March 2016 16:11
To: Latal, Jaromir

Cc: terryhall2@yahoo.co.uk
Subject: Re: App development - Bi-weekly report #2

Hi Jaromir and Lambros

Thanks for sending the report. I'll send you some examples as MP3s very soon. Sure, we can organise something for next week. When is good with you?

Best wishes

Imran

Imran Ahmad
+44 (0) 7967 329 802
imranahmadmusic.com

On Thu 03/03/16 15:43 , "Latal, Jaromir" jaromir.latal.15@ucl.ac.uk sent:

Dear Imran,

please find 2nd bi-weekly report attached, documenting our progress with the application. Also would it be possible to send us a few examples of the interventions and have a meeting during next week?

On behalf of Team 52,
Best regards,
Jaromir & Lambros

From: Latal, Jaromir
Sent: 15 February 2016 11:00
To: imran@imranahmadmusic.com
Cc: terryhall2@yahoo.co.uk
Subject: Bi-weekly report

Dear Imran,

I am sending you Bi-weekly report #1, denoting our progress for the past two weeks. I would like to request from you some sample recordings as you mentioned on our very first meeting. (1-2 are fine at this stage).

On behalf of Team 52,
Best regards,
Jaromir Latal

MoSCoW requirements report

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 09 February 2016 19:39

To: Latal, Jaromir
Cc: terryhall2@yahoo.co.uk
Subject: Re: MoSCoW requirements report

Hi Jaromir

It looks great!

Best wishes

Imran

Sent from my iPhone

On 9 Feb 2016, at 16:49, Latal, Jaromir <jaromir.latal.15@ucl.ac.uk> wrote:

Dear Imran,

could we please have your opinion? We need to present it tomorrow.

Best regards,
Jaromir Latal

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 07 February 2016 11:28
To: Latal, Jaromir
Cc: terryhall2@yahoo.co.uk
Subject: Re: Fwd: MoSCoW requirements draft

Dear Jaromir

Thanks for sending this. We will go over this and get back to you very soon.

In future, please can you email me at this email address - 'imran@imranahmadmusic.com' and please also CC 'terryhall2@yahoo.co.uk' for all future email communications.

Best wishes

Imran

Imran Ahmad
+44 (0) 7967 329 802
imranahmadmusic.com

-------- Original Message --------
Subject: MoSCoW requirements draft
  Date: 2016-02-06 22:03
  From: "Latal, Jaromir"
    To: Imran Ahmad

Dear Imran,

I am sending you MoSCoW requirements report draft based on our initial meeting, could you please go over it and write me what do you think?

Thanks in advance.

Best regards,
Latal Jaromir

Getting the UI mockups

From: Imran Ahmad <imran@imranahmadmusic.com>
Sent: 04 February 2016 16:38
To: Latal, Jaromir; Zannettos, Lambros
Cc: Terry Hall
Subject: The Mindset - UI Mockups

Dear Jaromir and Lambros

Please find attached the UI mockups. Please let us know if you need any clarification on anything.

Best wishes

Imran

--

http://imranahmadmusic.com

From: Imran Ahmad <imran@audava.com>
Sent: 03 February 2016 23:39
To: Latal, Jaromir
Subject: Re: UI mockups

Dear Jaromir

Sorry for the delay in getting back to you. We will send UI mockups tomorrow (Thursday) afternoon. They will be drawn on paper and scanned.

Best wishes
Imran

Imran Ahmad
Co-Founder
Audava Limited
+44 (0) 7967 329 802
www.audava.com

On 2016-02-01 15:52, Latal, Jaromir wrote:

Dear Imran,

would it be possible to send us some UI/UX mockups as we discussed during our initial meeting?

Thanks a lot in advance.

Best regards,
Latal Jaromir

Initial Communcation

From: Latal, Jaromir
Sent: 26 January 2016 18:26
To: Imran Ahmad
Subject: Re: UCL CS App Team 52 - first contact

Dear Imran,

can we meet near Warren Street please? My phone is 07598 428 430.

Best regards,
Latal Jaromir

From: Imran Ahmad <imran@audava.com>
Sent: 26 January 2016 15:55
To: Latal, Jaromir
Subject: Re: UCL CS App Team 52 - first contact

Dear Latal

Is it possible for you to meet us in Embankment station? If not, we can try and meet near Warren St.

My phone number is: 07967 329 802.

Please send me your number so that we can keep in touch tomorrow just in case we're running late.

Best wishes

Imran

Imran Ahmad
Co-Founder
Audava Limited
+44 (0) 7967 329 802
www.audava.com
On 2016-01-25 16:13, Latal, Jaromir wrote:
Dear Imran,

1pm works perfect, let me know where.

Best regards,
Latal Jaromir

From: Imran Ahmad <imran@audava.com>
Sent: 25 January 2016 14:55
To: Latal, Jaromir
Subject: Re: UCL CS App Team 52 - first contact

Dear Latal

After 12pm on Weds will be good with me. How about 1pm? I can confirm by tomorrow morning.

Best wishes

Imran

Imran Ahmad
Co-Founder
Audava Limited
+44 (0) 7967 329 802
www.audava.com
On 2016-01-22 12:57, Latal, Jaromir wrote:
Dear Imran,

sorry for confusing you, how about meting 11:30am somewhere? We have a lecture from 9-11am.

Best regards,
Latal

From: Imran Ahmad <imran@audava.com>
Sent: 21 January 2016 17:46
To: Latal, Jaromir
Subject: Re: UCL CS App Team 52 - first contact

Dear Latal

We won't be able to make it tomorrow at that time. Let's aim for next Wednesday.

Have a great weekend!

Best wishes

Imran

Imran Ahmad
Co-Founder

Audava Limited
+44 (0) 7967 329 802
www.audava.com

On 2016-01-20 22:52, Latal, Jaromir wrote:
Dear Imran,

Friday morning (e.g. 9:30am) works fine, please note we have classes at 11am so we need to be in time on them.

Best regards,
Latal Jaromir

From: Imran Ahmad <imran@audava.com>
Sent: 20 January 2016 14:08
To: Latal, Jaromir
Cc: Zannettos, Lambros; terrhall2@yahoo.co.uk
Subject: Re: UCL CS App Team 52 - first contact

Dear Latal

Are you available on Friday 22nd Jan?

Best wishes

Imran

Imran Ahmad
Co-Founder
Audava Limited
+44 (0) 7967 329 802
www.audava.com
On 2016-01-19 19:35, Latal, Jaromir wrote:
Dear Imran,

We have been instructed to meet with you before 22nd January (this Friday), however me and Lambros have only one common gap in the schedule - Wednesday after 11:30am till 3:30pm, would it be possible to meet then? Any later date is not possible as we have to submit the notes from our meeting till 28th.

Best regards,
Latal Jaromir

From: Imran Ahmad <imran@audava.com>
Sent: 19 January 2016 15:55
To: Latal, Jaromir; Zannettos, Lambros
Cc: Yun Fu; terryhall2@yahoo.co.uk
Subject: Re: UCL CS App Team 52 - first contact

Dear Yun,

Thank you for the e-introduction.

Dear Jaromir and Lambros

I hope you are both well. My business partner, Terry Hall, and I have created a set of guided meditations in audio that we will be publishing online. It will be great to build an app that has guided and unguided meditation features.

Current apps to look at are:

1. CALM (http://www.calm.com/)
2. HEADSPACE (https://www.headspace.com/)
3. INSIGHT TIMER (https://insighttimer.com/)

Can we arrange a meeting for the week beginning Monday 25th January? Please let us know your availability.

Please let us know if you need any more information from us.

Best wishes

Imran

Imran Ahmad
Co-Founder
Audava Limited
+44 (0) 7967 329 802
www.audava.com
On 2016-01-15 19:38, Yun Fu wrote:
Dear Imran Ahmad at Audava,

We are pleased to introduce you to team 52, from the Department of Computer Science, University College London.

They are working on your project named: Guide Meditation App

The team members are:

Jaromir Latal (Team Leader): jaromir.latal.15@ucl.ac.uk

Lambros Zannettos: lambros.zannettos.15@ucl.ac.uk

We would like you to schedule the first appointment for the students to introduce themselves and to go over the project idea and scope you have for them. Could you please share the latest version of your project description with the students?

We would then like you to schedule a formal interview with the team for capturing requirements. Our milestones require at least three meetings after this interview this term for them to check in with you, before a demonstration and handover in April at UCL.

Could you please contact the students directly to let them know some availability times and dates for their first meeting and they can then best match with their university timetables?

UCL will also contact you shortly regarding signing the UCL Industry Exchange Program Contract to ensure that you own the IP of your project.

Best regards,

Yun Fu