4. Requirements Analysis

4.1 Introduction

This chapter specifies end users’ desires and the client’s requirements. It discusses how both requirements were collected and prioritised. It describes and justifies the functional and non-functional requirements.

The software product consists of a mobile app and an API. The requirements specifications of both are also discussed in this section.

4.2 Purpose

The purpose of the mobile application is to enable frequent interactions with the Coach in a Box system by making it easier for coachees to access their coaching data. These frequent interactions will result in higher number completed coaching programmes, which invariably lead to higher income generated by Coach in a Box.

4.3 The Stakeholders

4.3.1 The Client

Mr. Will Stokely of Coach in a Box is the client

4.3.2 The Customer

The customers are the users of the mobile app and are the coachees. Coaches coach the coachees and the coaching programmes or pathways. are set up and managed by programme managers.

4.4 Determining Requirements

4.4.1 The End Users

The end users are the Coachees, whom are located in UK, USA, Asia, Australia and South America. A survey was created, in collaboration with the client, using Survey Monkey. The survey sought to determine the following (Check Appendix F to see full details of the survey questions):

1. Types of mobile phones and/or tablets owned
2. Mobile device likely to used to install the app i.e. smartphone and/or tablet
3. Three functions that are most useful to them
4. Importance of the native look and feel of the app
5. Importance of the responsiveness of the app

The analysis of the responses can be found below

**Question 1:** Which mobile phone do you own? (e.g. Samsung Note 3 or iPhone 5S)

Result: 80% of the respondents owned iPhones (iPhone 4, iPhone 4S, iPhone 5, iPhone 5S, iPhone 6 and iPhone 6S). The other respondents owned Samsung Galaxy S4, Samsung Galaxy Edge, Samsung Note 4, LG G3 and AT&T.

Analysis: The major ownership of iPhones is most likely because majority of the respondents are located in USA. It was difficult to get a more representative response. Ideally the mobile app should target the iOS platform but I don’t have an iPhone so I will target the Android platform with the aim of targeting the iOS platform next.

**Question 2:** If you own a tablet, which do you own? (e.g. Apple iPad Air 2 or Microsoft Surface 3)

Result: Similarly 80% of the respondents owned an iPad whilst the remaining owned a Samsung Android tablet. Only a tiny minority owned a Windows tablet.

Analysis: The major ownership of iPads is most likely because majority of the respondents are located in USA. Some end users plan to use both smartphones and tablets, whilst some end users don’t work with their tablets or iPads. Smartphones remain the targeted mobile device.

**Question 3:** Check Appendix G to see the results

Analysis: Majority of respondents will likely download the app to their smartphones. Smartphones remain the targeted mobile device.

**Question 4:** Check Appendix H to see the results

Analysis: The three major functions desired by the end users are abilities to manage coaching sessions; download and read coaching materials; and find coaches’ contact details. These three major functions should have a high priority and should be released in version 1 of the app.

**Question 5:** Check Appendix I to see the results

Analysis: 44% of respondents say the look and feel of the app is fairly important, 28% say it’s very important and 22.67% don’t mind if the app has a native look and feel. A hybrid app with some native UI components will suffice.

**Question 6:** Check Appendix J to see the results

Analysis: 65% of respondents say the responsiveness of the app is very important. It’s therefore important that the app is responsive.

4.4.2 The Client

The client handed over some acceptance tests, which will form the basis of the acceptance criteria. The mobile app is expected to pass these test cases for it to be deemed successful. The acceptance tests can be found under the “Fit Criteria” of the Volere’s Atomic Requirements Template (Appendix K).

Volere’s Atomic Requirements Template (see Appendix K) was used to gather more details on the requirements from the client. In the template the client justifies each requirement and prioritises them – using High, Medium and Low. The satisfaction and dissatisfaction of the client if a requirement is met or not is also recorded with a scale of 1 (lowest) to 5 (highest).

Requirements with a high priority will be incorporated in version 1 of the app. These take precedence over requirements with a medium or low priority

4.5 Functional Requirements

In this section the functional requirements of the mobile app and API are described and justified. Check Appendix K for a more detailed presentation. The priority of the requirement is either High (H) or Medium (M) or Low (L).

4.5.1 My Page Mobile App

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Priority** | **App**  **Version** | **Description and Justification of Functional Requirement** |
| 1 | H | 1 | **Coachee should be able to sign in and the password should be case-insensitive**  Unless you can access the app, the purpose is redundant. Some Coachees aren’t tech-savvy so a case-insensitive password will make it easier to log in. |
| 2 | L | 1 | **Show Coachee's username and timezone**  If you don’t show the timezone, the Coachee is unlikely to see if they are set up incorrectly |
| 3 | M | 1 | **Coachees can update their profiles**  If Coachees are unable to update their profiles, it increases the administrative burden on another point in the organisation (or they just opt out of updating it) |
| 4 | H | 1 | **Coachees can view their Coaches’ contact details and biographies**  A Coachee needs a Coach's contact details to be able to call the Coach. Coachee could still get this data from auto-emails but not having it on the app degrades its value significantly |
| 5 | M | 1 | **Coachees can email their Coaches**  This is a measure of convenience. Without it, the app will fall below industry standards |
| 6 | H | 1 | **Coachees can see details of their coaching sessions**  This is a core function of the app. Without this function the app isn’t useful |
| 7 | H | 1 | **Coachee can't see additional fees of a coaching session**  Coachee should never be able to see this as this is CiaB internal data |
| 8 | H | 1 | **Coachee can view a Coach's availability in his/her timezone**  This is a core function of the system. Not correcting for timezones will lead to disruptive errors in the function of the app |
| 9 | H | 1 | **Coachee can book a coaching session in his/her timezone**  This is a core function of the system. Without this function the app is degraded significantly |
| 10 | H | 1 | **Both Coachee and Coach get an email notification when a booking is made**  This is a core function of the system. This keeps both parties informed |
| 11 | H | 1 | **Coachee can delete an existing booking**  This is a core function of the system. This makes it easier for Coachees to manage their bookings. |
| 12 | H | 1 | **Coachee can't delete a booking with less than 24 hours to go**  This is a core function of the system. |
| 13 | H | 1 | **Coachee can't delete a face to face booking**  This is a core function of the system |
| 14 | H | 1 | **Coachee can download/view coaching materials**  This is a core function of the system. It gives Coachees the opportunity to read their coaching materials when offline |

4.5.2 JSON API

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Priority** | **API**  **Version** | **Description and Justification of Functional Requirement** |
| 15 | H | 1 | **API should encrypt authentication token**  To prevent a hacker or an unauthorised person from accessing the authentication token |
| 21 | H | 1 | **The API should authenticate the users**  This ensures only authorised Coachees can access data on the system |
| 22 | M | 1 | **The API should send the appropriate error message when it encounters an error**  This informs the Coachee of the reason a function can't be performed. It also improves user experience |

4.6 Non-functional Requirements

In this section the non-functional requirements of the mobile app and API are described and justified. Check Appendix K for a more detailed presentation. The priority of the requirement is either High (H) or Medium (M) or Low (L).

4.6.1 My Page Mobile App

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Priority** | **App**  **Version** | **Description and Justification of Non-Functional Requirement** |
| 16 | H | 1 | **The app should use native UI components where possible**  This makes the UI recognizable and easy to navigate, which ensures the app is user friendly |
| 17 | H | 1 | **Page transitions and animations should not lag**  This ensures a good user experience and guarantees its continued use |
| 18 | M | 1 | **The app's performance on a variety of Android and iOS smartphones should be satisfactory**  This ensures that regardless of the Android or iOS smartphone used, the user experience is guaranteed |
| 20 | H | 1 | **The mobile app’s styling should resemble that of the website's**  This makes the app look recognisable and user friendly |
| 23 | H |  | **The integration of the app with the API should be well tested with integration tests**  This ensures that the app calls the API correctly and receives the expected response. These serve as regression tests too |

4.6.2 JSON API

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Priority** | **API**  **Version** | **Description and Justification of Non-Functional Requirement** |
| 19 | H | 1 | **The API should be well tested with unit tests**  This confirms the API works as expected and the tests serve as regression tests |

4.7 Conclusion

Though many of the requirements will be in version 1 of the app, I may not be able to incorporate them on or before April 22, when this project report is due but I intend to implement them after my university exams.

Even though it’s desirous to target the iOS and Android platforms, I will start off by targeting the Android platform because at the moment I do not have an iPhone and I’m more familiar with the native design of Android. I intend to progress to the iOS platform next.