

Appendix E: Requirements Specification

Market Research Mobile Application

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1.0 Overview

This requirements specification holds the information needed to develop a market research mobile application.

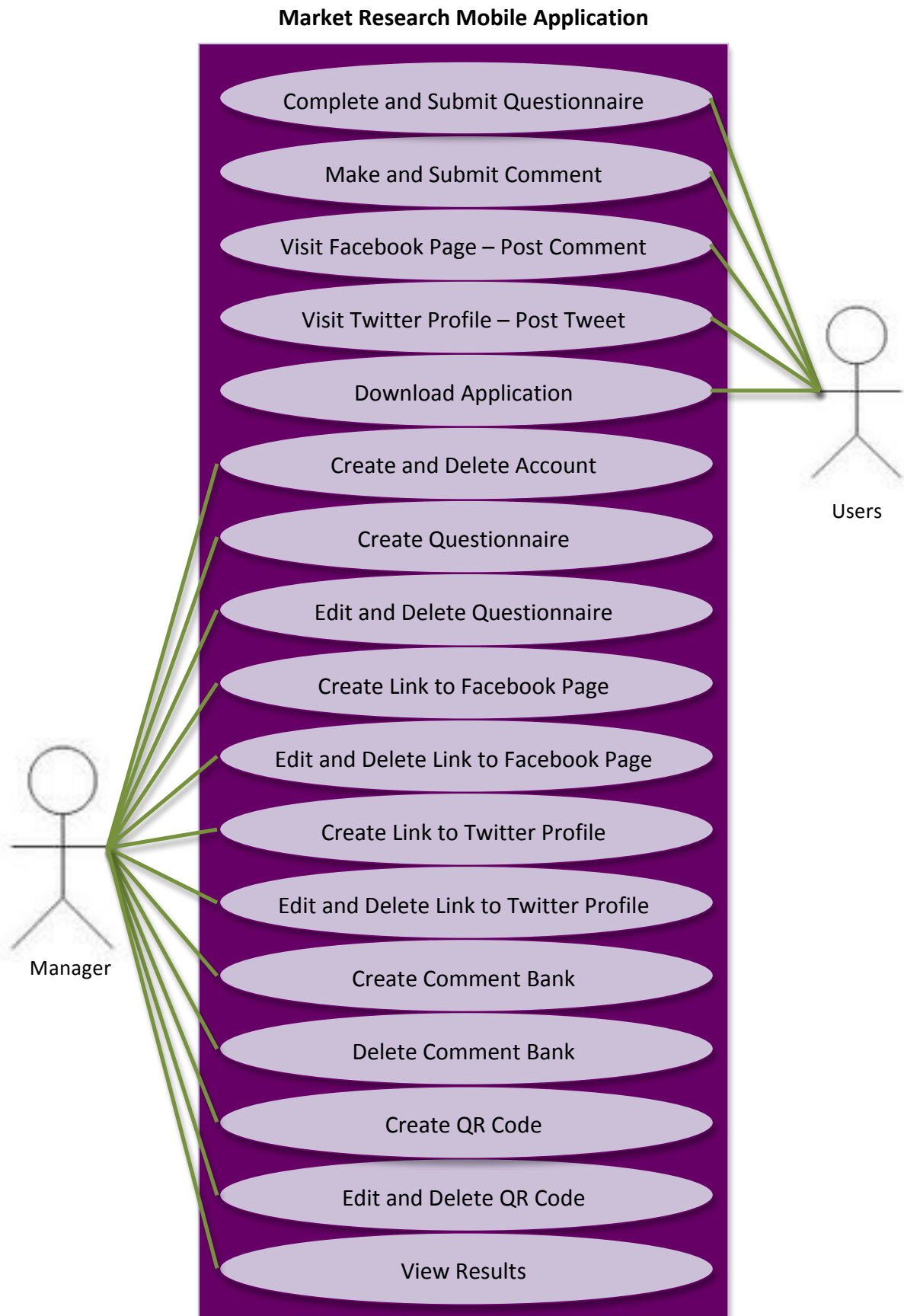
I am proposing and have developed requirements for a web based management system that enables businesses to create an account and from here create questionnaires and feeds to Twitter and Facebook, that they can then use to collect data about their business, straight from the users. This will be complete through the web management part of the system. The mobile application part of the system is then for the end users use, where they will scan the QR code, create questionnaires, post and tweet comments or submit comments if they do not have Facebook or Twitter.

It is expected that the level of computer and mobile experience may vary. The managers are expected to be familiar with computer technology and the internet, but help hints will be included within the web management system to assist them when using the system. The end users, mobile users, are likely to be experienced as they will be using their phones as a daily activities of their everyday lives; but to ensure there is no confusion and the system is used correctly hints will be included in area which could be considered challenging by the inexperienced.

Currently, there are no applications the same as this, although there are two or three slightly similar ones. As a result of this the users will not have experience of completing market research via their mobile phones. This could lead to a resistant to using the application as they may think we are collecting personal information, or generally be resistant to the change. To prevent or lessen the effect of this we need to ensure that the application full explains the benefits and that no personal information is being stored or collected, other than opinions submitted.

2.0 Requirements

2.1 Functional Requirements



Use Case Title:	Complete and Submit Questionnaire	Use Case Number:	1
Description:	For the business to receive feedback the user needs to complete and submit the answers to the questionnaire.	Prioritization:	Important
Pre-Conditions:	The user must have downloaded the Roosearch application.	Post-Conditions:	The questionnaire must be submitted for the business to receive it.
Flow of Actions:	<ol style="list-style-type: none"> 1. Scan the QR code; 2. Select questionnaire option; 3. Select the radio box that relates to chosen answer; 4. Select submit button when finished. 		
Actors:	End users		

Use Case Title:	Make and Submit Comment	Use Case Number:	2
Description:	For the business to receive detailed feedback the user can complete and submit comments.	Prioritization:	Not Important
Pre-Conditions:	The user must have downloaded the Roosearch application.	Post-Conditions:	The comment must be submitted for the business to receive it.
Flow of Actions:	<ol style="list-style-type: none"> 1. Scan QR code; 2. Select comment option; 3. Select text box; 4. Use keyboard to enter comment; 5. Select submit button. 		
Actors:	End users		

Use Case Title:	Visit Facebook Page – Post Comment	Use Case Number:	3
Description:	If the user has a Facebook account and wants to leave a comment on the business Facebook page, they can use this method.	Prioritization:	Average
Pre-Conditions:	The user must have downloaded the Roosearch application and have a Facebook account.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Scan QR code; 2. Select Facebook option; 3. Select write post; 4. Use keyboard to enter comment; 5. Select post button. 		
Actors:	End users		

Use Case Title:	Visit Twitter Profile – Post Tweet	Use Case Number:	4
Description:	If the user has a Twitter account and wants to leave a tweet on the businesses Twitter profile, they can use this method.	Prioritization:	Average
Pre-Conditions:	The user must have downloaded the Roosearch application and have an active Twitter account.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Scan QR code; 2. Select Twitter option; 3. Select tweet; 4. Use keyboard to enter comments with business name hashtag; 5. Select post button. 		
Actors:	End users		

Use Case Title:	Download Application	Use Case Number:	5
Description:	The user has to download the application in order to complete any activities.	Prioritization:	Important
Pre-Conditions:	Have Play Store account.	Post-Conditions:	Exit Play Store.
Flow of Actions:	<ol style="list-style-type: none"> 1. Select Play Store on phone; 2. Select search button; 3. Use keyboard to enter 'Roosearch'; 4. Select enter to search; 5. Select Roosearch application from the list; 6. Select install; 7. Select accept and download. 		
Actors:	End users		

Use Case Title:	Create and Delete Account	Use Case Number:	6
Description:	The manager creates an account before setting up different features. If they want to stop using Roosearch they can then disable the features and delete the account.	Prioritization:	Important
Pre-Conditions:	Load up the Grails Roosearch Website.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select create account; 2. Fill in username and password; 3. Select create account; 4. To delete go to options; 5. Delete account; 6. Select ok. 		
Actors:	Business Manager		

Use Case Title:	Create Questionnaire	Use Case Number:	7
Description:	The manager must create a questionnaire for the users to complete, if they want specific information. They also need to be able to edit this to correct mistakes.	Prioritization:	Important
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select create questionnaire; 2. Enter questions and answers in indicated places; 3. Select create; 		
Actors:	Business Manager		

Use Case Title:	Edit and Delete Questionnaire	Use Case Number:	8
Description:	If mistakes are made or the manager wants to rephrase something, they need to be able to edit the questionnaire. If they have finished with it they then need to be able to delete it.	Prioritization:	Average
Pre-Conditions:	Use case seven.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select view questionnaire; 2. Select correct questionnaire; 3. Select edit; 4. Make correction were required; 5. To delete, select delete; 6. Select ok. 		
Actors:	Business Manager		

Use Case Title:	Create Link to Facebook Page	Use Case Number:	9
Description:	The link needs to be created so the users can post comments directly from the application.	Prioritization:	Average
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select create Facebook link; 2. Enter Facebook URL for business page; 3. Select create link. 		
Actors:	Business Manager		

Use Case Title:	Edit and Delete Link to Facebook Page	Use Case Number:	10
Description:	If account is changed or deleted the business needs to update or delete this on the system.	Prioritization:	Average
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select view Facebook link; 2. Select edit; 3. Then charge accordingly; 4. Select save; 5. To delete select delete instead of edit; 6. Select ok. 		
Actors:	Business Manager		

Use Case Title:	Create Link to Twitter Profile	Use Case Number:	11
Description:	The link needs to be created so the users can tweet directly from the application.	Prioritization:	Average
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select create Twitter link; 2. Enter Twitter URL for business profile; 3. Select create link. 		
Actors:	Business Manager		

Use Case Title:	Edit and Delete Link to Twitter Profile	Use Case Number:	12
Description:	If account is changed or deleted the business needs to update or delete this on the system.	Prioritization:	Average
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select view Twitter link; 2. Select edit; 3. Then charge accordingly; 4. Select save; 5. To delete select delete instead of edit; 6. Select ok. 		
Actors:	Business Manager		

Use Case Title:	Create Comment Bank	Use Case Number:	13
Description:	Allows users without Facebook or Twitter accounts to leave comments of experiences.	Prioritization:	Not Important
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	1. Select create comment bank; 2. Type in sentence with instruction; 3. Select create comment bank.		
Actors:	Business Manager		

Use Case Title:	Delete Comment Bank	Use Case Number:	14
Description:	The business needs an option to delete the comment bank if they no longer want users to use it.	Prioritization:	Not Important
Pre-Conditions:	Manager must have an account and be logged in. use case thirteen.	Post-Conditions:	NA
Flow of Actions:	1. Select view comment bank; 2. Select delete; 3. Select ok.		
Actors:	Business Manager		

Use Case Title:	Create QR Code	Use Case Number:	15
Description:	Creates the QR code for the users to scan.	Prioritization:	Important
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	1. Select create QR code; 2. Copy in ink to research collection methods option page; 3. Select create QR code; 4. Print / download and attach to documentation.		
Actors:	Business Manager		

Use Case Title:	Edit and Delete QR Code	Use Case Number:	16
Description:	Allows manager to edit QR code contents and delete if it is no longer needed.	Prioritization:	Not Important
Pre-Conditions:	Manager must have an account and be logged in. Use case sixteen.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select view QR codes; 2. Select QR code in question; 3. Select edit; 4. Copy new link in; 5. Select save; 6. If deleting select delete instead of edit; 7. Select ok. 		
Actors:	Business Manager		

Use Case Title:	View Results	Use Case Number:	17
Description:	The manager can view the results and make appropriate decisions based on this.	Prioritization:	Average
Pre-Conditions:	Manager must have an account and be logged in.	Post-Conditions:	NA
Flow of Actions:	<ol style="list-style-type: none"> 1. Select view results; 2. Select either questionnaire or comment to view results for either method; 3. For Facebook and Twitter, visit profiles. 		
Actors:	Business Manager		

2.2 Non-Functional Requirements

- Performance;
 - The response time after the QR code is scanned is 5 seconds;
 - The response time for screens to load is 3 seconds;
 - The response time for submission is 5 seconds;
 - The response time for web management system page loads is 3 seconds.
- Security;
 - No unauthorized access;
 - Data being transmitted is secure.
- Robustness;
 - The system must be able to cope with error, it must not fail or crash if the users enter the wrong data or select the wrong button / option.
- Testability;
 - The system has to be testable from the requirements and design, so they must be followed closely and any changes documented in detail.

2.3 Testing and Validation

Three types of testing will be carried out on the web based management system. These include:

- Unit testing;
 - To be carried out continuously by the developer. This will be used to verify that the written actually does what it is supposed to do and is fit for purpose.
- Test cases;
 - These will be developed by myself as the iterations progress, and will be carried out by myself to ensure that the implemented system matches the requirements and design. This will also reveal potential faults and failures.
- Integration testing;
 - To be carried out by the developer at the end of each iteration to verify functional and non-functional requirements that need to be met. For example to test the robustness.

Further details on these will be given at the relevant times during implementation so confusion can be avoided.

3.0 Assumptions

- The users mobile phone must be *Android 4.0 or higher*. Most android phones have this level of software, but some will need to be updated before use.
- The user has a *QR scanning application* on their phone. This is needed to scan the QR codes used to access the feedback methods.
- The business user must have a *valid email address* that can be used as their username.
- The users have the *Roosearch application* already downloaded on their phone.
- There is a limit of five questionnaires that can be completed within three days, per user.

4.0 Constraints and Limitations

- The Data Protection Act states about the storage and dispersing of peoples personal information, this is a constraint on the system and to avoid it, it has been decided to that no personal information will be stored about either the businesses users or the businesses customers.
- Users can only complete the collection methods if they have Android software 4.0 or above.
- The users phone also has to have a camera, which is needed to scan the QR codes.
- Due to time limitations I have decided to let the developer use Grails, this means that we have to use the scaffolding they provide.
- One of the main limitations is a time constraint, and so the requirements had to be assigned priority ratings to ensure the most important features are completed first.