**1. Purpose of the Project**

**1a. The User Business or Background of the Project Effort**

This project aims to provide a solution that will allow users to order and pay through a mobile application at restaurants. This opportunity arose from the lack of a universal application in the market, which allows users to visit multiple restaurants, and order and pay at each restaurant, through the singular application. Once complete, the Android users will be able to walk into any restaurant which offers our solution, and have the ability to order and pay for their meal through the singular application.

**1b. Goals of the Project**

The delivered application will allow an Android user to use the application at any restaurant, which offers the Smart Waiter solution. More importantly, the client should be able to view restaurants complete menu, order selected items and pay for their meal through the application.

**2. Clients, Customers and other Stakeholders**

**2a The client**

The prospective client of this application will be a restaurant owner or manager, who would like to implement an application based ordering system at their restaurant.

**2b The Customers**

The targeted customers will include clients of the restaurants, which offer Smart Waiter solution.

**2c Other Stakeholders**

Other Stakeholders of this project include;

* Supervisor – Dr. Rong Zheng
* Android Users – Clients of reataurant
* Developers and Testers – Pavneet Jaual, Meraj Patel and Shan Perera
* Beta Testers
* Prospective manager/restaurant owners

**3. Users of the product**

**3a The Hands-On Users of the Product**

The following users would ideally use this application;

Group - Restaurant clients

Clients who frequent restaurants, which offer Smart Waiter services.

User Role

These users will use the application to view restaurant menu, order their selection and pay for their meal.

Subject Matter Experience

These users can be categorized as novice, as they do not need extensive knowledge of the business. The user can simply be a client walking into a restaurant for the first time.

Technological Experience

The technological experience of this user can also be considered novice. The application will not require any training to use.

Other User Characteristics

There are some basic characteristics that the user should have, to qualify to use this application;

* Should have an android device and an internet connection
* Basic understanding of how to use an android application.
* Should have a credit card, to make payments through the application.
* Users who generally frequent restaurants at least once a month

Group - Restaurant Owners

User Role

These users will probably use this application to evaluate it. They will generally test its effectiveness, performance and advantage within their business.

Subject Matter Experience

To be considered masters, as they have in depth knowledge of the business.

Technological Experience

The technological experience of this user can be considered novice. The application will not require any training to use.

Other User Characteristics

There are some basic characteristics that the user should have, to qualify to use this application;

* Should have an android device and an internet connection
* Basic understanding of how to use an android application.
* Credit card required if they want to test payments method
* These users will pay attention to details. They will generally critique the UI and other aspects of the application to see how it fits their specific business needs.

Group – Testers/Developers

User role

These users will perform end-to-to system testing. The tester and developers will verify that each use-case and each feature in the application works correctly.

Subject Matter Experience

They will have complete knowledge of the business needs and requirements. Thusly they can be considered a master.

Technological Experience

They will be a master in technological experience. They will know the code base of the application thoroughly. Similarly, they would know the application infrastructure and other technology used in the application

Other User Characteristics

* Advanced knowledge of android framework
* Advanced knowledge of the code base
* Evaluate the application from the engineering perspective
* These users will pay close attention to detail
* Knowledge of all possible use-cases and expected outcomes of the application

**3b Priority assigned to the user**

Key Users

The key users of this application will be the target market of this product. Namely, the restaurant’s owners/managers and the restaurant’s clients.

Secondary Users

The secondary users will be considered the Testers/Developers

**3c User Participation**

Restaurant Clients – These users will be participating and helping us provide the requirements and throughout the lifetime of the application. Specifically, they will be having a “report bug” feature built into the application to report bugs and suggest improvements. They will provide usability requirements.

Restaurant Owners – These users will also participate in providing requirements throughout the lifetime of the application. However, their main concerns are expected within 1 day of application usage. These users will provide business knowledge and business requirements for the application.

Testers/Developers – Throughout the development cycle of the application these users will continuously contribute to the requirements of the application. Specifically, they will provide interface prototyping, business knowledge and usability requirements for the application.

**3d Maintenance Users**

The testers/ Developers of the application will be considered the maintenance users. When going through the steps of unit testing, end-to-end testing and verification process, these users will continuously make changes to improve the product.

**4 Mandated Constraints**

**4a Solution Constraints**

Constraint #: 1

Description: The application shall pull the restaurant’s menu from the server via a barcode scan.

Rationale: Provide a simple solution, which supports multiple restaurants.

Fit criterion: Must be approved by tester & developer. They must confirm that complete information about the restaurant’s menu has been pulled from the server onto the user’s device.

Constraint #: 2

Description: The barcode scan by user shall send table and other user information to the server.

Rationale: Provide the restaurant with client’s information and table number to serve food to

Fit criterion: Must be approved by tester & developer. They must confirm that complete information about the user has been pushed to the server onto the user’s device.

Constraint #: 3

Description: The application must run on Android operating system

Rationale: We are catering to the entire android platform users

Fit criterion: The application must be approved complaint from the developers and testers. This will involve thorough testing on the Android platform.

Constraint #: 4

Description: The application shall support credit card payments

Rationale: This will transfer money to the restaurant’s account

Fit criterion: The functionality must be approved complaint by the developer and testers. This will require approving the code base and the end-to-end functionality

Constraint #: 5

Description: The payment information for the client must be stored safely

Rationale: This is very sensitive data and should not be abused and exploited.

Fit Criterion: The functionality must be approved complaint by the developer and testers. This will require approving the code base and the end-to-end functionality.

**4b Solution Constraints**

The environment will require the following;

* Source code will be written in Java
* Android Studio will be used as the IDE
* Parse API Library for Android will be used for cloud storage
* Stripe API will be used to process credit card payments

**4c Partner or collaborative applications**

* Not Applicable

**4d off-the-shelf software**

Sketch will be used to make UI blueprints. In addition, Photoshop will be used to make custom logos and icons.

**4e Anticipated workplace environment**

The users will be using this application in a restaurant. Typically, this work environment would be loud and distracting. Thusly, we plan on making the UI of the application visually attractive, where the user does not need to read much.

**4f How long will the developers have on the project**

The final deadline for the project is mid April 2016. The detailed deliverables and their respective deadlines are listed below;

* Requirements Document Revision 0: October, 9, 2015
* Proof of Concept Plan: October, 23, 2015
* Test Plan Revision 0: October, 30, 2015
* Proof of concept demonstration: November, 16, 2015 – November, 27, 2015
* Design document revision 0: January, 11, 2015
* Revision 0 Demonstration: February, 1, 2015 – February, 12, 2015
* User’s Guide Revision 0: February, 29, 2015
* Test Plan Revision 0: March, 21, 2015
* Final Demonstration: Mid-April, 2016
* Final Documentation for the product: April, 1, 2016

**4g What is the final budget of the project?**

Not Applicable

**5 Naming Conventions and Definitions**

skip

**6 Relevant facts and assumptions**

Fact #: 1

Stripe API used for payment processing is payment card industry (PCI) complaint

Fact #: 2

Restaurant clients should not be able to dine and dash

**6b** **Assumptions**

Assumption #: 1

Parse Database offers top-notch security for backend infrastructure from physical to application level.

Assumption #: 2

SSL connection used for socket programing is secure and cannot be sniffed.

**7 The Scope of the Work**

**7a The current situation**

Typically majority of the restaurants today offer their services through waiters today. Clients must wait for a waiter to take the order and pay for their food once they have had their meal.

Some restaurants have proprietary applications, which allow users to dine at their specific restaurant. Users can make orders through the application. However, most of these applications are not for in-restaurant use.

There is no universal application in the market, which allows users to dine and pay at multiple restaurants. Our application will replace the need for proprietary restaurant applications and also help restaurants run efficiently. It may help drive down the number of waiters needed at an restaurant as well, which is ideal for small businesses.

**7b The context of the work**

Done by meraj

**8 Scope of the product**

**SKIPPED**

**9 Functional Requirements**

**SKIPPED**

**10 Look and Feel Requirements**

**10a Interface Requirements**

The interface requirements must comply to with the following demand;

* The product shall be simple to use. Compare the complexity to a experience at a restaurant, where user views the menu, orders and uses visa machine to pay.
* The interface must not take more than 10 minutes to learn
* Interface must be consistent, regardless of any restaurant’s menu

**10.b Style Requirements**

The style requirements must comply to the following constraints;

* Interface design must follow Normans’s design principles such as affordance, feedback, Mapping, visibility and constraints
* The interface must look professional and well organized
* Shall be pictures based and should not require a lot of reading

**11 Usability and Humanity Requirements**

**11a Ease of use Requirements**

The product should not require any formal training at all. The general public should be able to install the application, and be able to use it with minimal guidance.

**11b Personalization and internationalization requirements**

The Product will only be available in English. Depending on the demand and the clients of the product we can perform localization in the future. For example, if a Arabic would like to display a menu in Arabic.

**11c Ease of Learning**

The product shall be able to be used by any member of the general public, from any age group with minimal to no guidance.

**11d Understandability and Politeness Requirements**

As mentioned earlier by following Norman’s principles of affordance, feedback, Mapping, visibility and constraints, during UI development we will address these requirements.

**11e. Accessibility requirements**

The product will rely on the Android operating system’s accessibility options and features to make it available to the disabled users.

**11d Understandability and Politeness Requirements**