

**Department of Electrical and Computer Engineering**

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**Project Proposal**

Section: 04

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* Introduction

1.1 Purpose

The purpose of our project is to make a mobile application which is convenient to use and search for shops. The name of our application is \KHUJO". We want to make things little bit easier for the users.

1.1.1 Vision Statement

The aim of this application is to help people from all backgrounds for nding an easy solution based on their search or their desired needs. This will help them to consume their time and use less e ort.

1.1.2 Scope

This application has the scope for building a community where people can easily look for their desired shops. There will be database maintained also on the products of shops, co-ordinates of the shops. We will include simple English language for the understanding purpose. In further part, we will try to include other languages as well.

1.2 Document Convention

We will try to give the outlook as easier as possible. We will use di erent kinds of icons and options for making the application user friendly. We will use Times New Roman for documents writings and use italic, highlighted or bold features for di erent purposes.

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* Overall Description

2.1 Product Perspective

This product is going to be a follow-on member of a product family of an App

* a particular purpose) more precisely it's going to be a mobile application (Android App). There are many useful mobile applications but ours app will be a helping hand for nding groceries and daily household things by just a tap. This product will help people in a certain area to nd shops and our app will help them nd the directions also. It will also provide other functions like reminder of events, can create list for what they want to buy later etc. In this we are using Google API for maps to nd the shop location. Our app will guide the user to nd the nearest shop. First of all user have to sign in. User can sign in via opening their own account via name and email. One thing to remember is whenever the app is running we have to turn on our GPS. Then he/she can select item from search bar and search for nearest shop to buy their desired items. Another function our app will have that is create list for next day or next week. So the app will remind the user to buy things and guide them. In this project, we will have a database management system for collecting shop's details information. Database will be manually inserted for this short purpose. We are choosing Bashundhara Residential area for this project so we will have most rated shops information and data in our database system. So that user can know more about the shop and the prices.

2.2 Product Functions

The major features of our \KHUJO" application are-

User registration: Users have to register in our app with his/her name, email

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address. After giving the correct information user will have his/her own pro le. Login: After registration step user now can login in to their pro le to use our app. He/she can also login via gmail or facebook. But this feature is under development stage. We will highlight this part later.

Create list and Add items: In this part user can create list and add items that he/she wants to buy right now or later. If he/she wants to buy later than they can put reminder noti cation in this app.

Search: In search option user can search for any groceries or any household products. And can see the map for the desire shop. Shop information: For shop information our app will have a database system where user can see or search for shop information. So that they can have an idea about the shop and shop's products. Directions to desired shop: After select all items user wants to buy then he/she can search for direction for going to the shop. Our app will assists user for the nearest shop and also for shortest path to choose for them.

2.3 Operating Environment

Our \KHUJO" project in based on mobile app so, we are going to established it in Android environment.

Operating System: Android (Handset). Coding Language: Java. Tool Kit: Android 8.1 Oreo. IDE: Android studio. The Android SDK and add-ons such as the Google Maps SDK. 6. Fire-base for database management system. All these tools are going to use to establish this project. Our app will work on android version only and handset smartphone.

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* Functional Requirements-Based on user inter-

action

This section includes the requirements that specify all the fundamental actions of the software system.

3.1 User class 1- The User

ID: FR1

TITLE: User Registration- Mobile application

Description: Given that a user installed the application in mobile and open khujo in mobile, then the user should be able to register through the mobile application. The user must provide user-name, password and email address. The user can choose to provide facebook or google account account for user registration.

RATIONAL: In order for a user to register on the mobile application.

DEPENDENCY: None.

ID: FR2

TITLE: User login

Description: After registration, user should be able to log in to the khujo. The login information will be stored on the browser and in the future, registered user should be able to log in automatically. User will now log in from their Facebook or Google account.

RATIONAL: In order for a user to register on the mobile application.

DEPENDENCY: FR1

ID: FR3

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TITLE: Retrieve password

Description: Given that a user has registered, then the user should be able to retrieve his/her password by email.

RATIONAL: In order for a user to retrieve his/her password.

DEPENDENCY: FR1.

ID: FR4

TITLE: Create list

Description: After successfully logging in to the mobile application, the rst page that is shown should be the create list page. The user should be able to create many list for shopping, User can add / remove items in the list for the purpose to search the shops nearby. User has to save the list. RATIONAL: In order to create list for add items.

DEPENDENCY: FR2

ID: FR4

TITLE: Search by list

Description: Added items in the list will provide a search result for user to locate nearby shops. based on saved item list application will conduct a search to locate shops nearby. The search result will provide user list of nearby shops name, location and other information according to priority of items. A user should be able to select multiple search items in one search. RATIONAL: In order to search for shopping items.

DEPENDENCY: FR2

ID: FR5

TITLE: Sorting results

Description: When viewing the results in a list, a user should be able to sort the results according to items availability, nearest shop.

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RATIONAL: In order for a user to sort results in a list.

DEPENDENCY: FR2

ID: FR6

TITLE: View shop information

Description: User can be able to see not only nearest shops name but also shops information such as About shop , list of items , availability of items , contact number address , view map on google map. RATIONAL: In order to view shop information.

DEPENDENCY: FR2, FR5

ID: FR7

TITLE: View shop direction on map

Description: Users are provided with the shop direction and also shortest route on google map. So that user can able to see the shop direction from their loca-tion.

RATIONAL: In order to view shop location.

DEPENDENCY: FR2, FR5, FR6

ID: FR7

TITLE: Web application - No match found

Description: If no match is found the user should be informed but kept on the search page in order to get the possibility to conduct a new search right away.

RATIONAL: In order for user to conduct a new search if no match is found.

DEPENDENCY: FR2

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* Non-Functional Requirements

The requirements in this section we provide a detailed speci cation of the user interaction with the software and measurements placed on the system perfor-mance.

4.1 Performance Requirements

The smoothness of the system should be very high. User should not be wait too long to just see the search result. Real time should be very low. Search result should be very relevant to the searched keywords.

4.2 Safety requirements

Personal data stored of a user should be very safe from another user. Only administrator will be able to take steps if there is any concern.

4.3 Scalability

Size of the system should be enough to accommodate hundreds of users .

4.4 Availability

Mobile application should be able to accessed from any place .

* Constraints

5.1 SCALE

The application's need of active mobile data communication and an android operator mobile phone.

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5.2 MUST

Android mobile phone, Internet connection, Database

5.3 PLAN

IOS, Web application

* Security

6.1

TAG: Communication Security

GIST: Security of the communication between the system and server. SCALE: The messages should be encrypted for log-in communications, so others cannot get user-name and password from those messages.

METER: Attempts to get user-name and password through obtained messages on 1000 log-in session during testing.

MUST: 100Communication Messages: Every exchanged of information between client and server.

6.2

TAG: Admin Login Account Security

GIST: Security of accounts.

SCALE: If an admin tries to log in to the web portal with a non-existing account then the admin should not be logged in. The admin should be noti ed about log-in failure.

METER: 1000 attempts to log-in with a non-existing user account during test-ing.

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6.3

TAG: User Create Account Security

GIST: The security of creating account for users of the system.

SCALE: If a user wants to create an account and the desired username is occu-pied, the user should be asked to choose a di erent user name.

* Release Plan

The requirements are divided into three releases based on the prioritization and their dependencies. The three di erent releases are assembled so that each would work as a fully functional application. In the rst release the requirements that build up the foundation of the mobile application were included, together with the most highly prioritized requirements and their dependencies. The second release also includes important requirements. However, these requirements are not vital for a functional application. They are more suited to act as additional features that can contribute to making the software product more attractive. The third release includes the requirements that can be a orded to discard if the project gets delayed or overruns the budget.

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