Earneasy: A mobile Crowd sourcing Application

Software Project lab-3

SPL 3 Mid Report

Course Code: **Software Project Lab III (SE 801)**

**EarnEasy:**

**A Mobile Crowd Sourcing Application**

**Submitted By**

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**Submission Date: 23 February, 2021**



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LETTER OF TRANSMITTAL

23 February, 2020

BSSE 4th Year Exam Committee

Institute of Information Technology

University of Dhaka

**Subject:** Submission of midreport of “EarnEasy: A Mobile Crowdsourcing Application”.

Dear Sir,

With due respect, I am pleased to submit the final report of Software project lab-III on “EarnEasy: A Mobile Crowdsourcing Application”. I have tried my best to deliver a good report. However, it might lack perfection. So, I therefore, hope that you would be kind enough to accept my report and oblige thereby.

Sincerely yours,

Pritom Kumar Das

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8th Semester

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LETTER OF ENDORSEMENT

February 23, 2021

BSSE 4th Year Exam Committee

Institute of Information Technology

University of Dhaka

**Subject:** Approval of the Report

This letter is to certify that, Pritom Kumar Das, BSSE0919, student of Institute of Information Technology, University of Dhaka, has done “EarnEasy: A Mobile Crowdsourcing Application” under my supervision. I have gone through the report. All the information mentioned in this document is true.

I wish him every success in life and hope that he will continue his effort in the future.

SPL Supervisor

**Dr. Md. Shariful Islam**

Professor

Institute of Information Technology

University of Dhaka

ACKNOWLEDGEMENT

Firstly, I would like to thank the Almighty for helping me complete the final report.

I am grateful to the Institute of Information Technology for giving such a tremendous opportunity to work on “EarnEasy: A Mobile Crowdsourcing Application”. I would like to convey my tremendous gratitude to my supervisor, Dr. Md. Shariful Islam, Professor, Institute of Information Technology, University of Dhaka, for providing me guideline about how I can prepare this report. He helped me a lot by sharing his valuable knowledge with me.

Lastly, I would like to thank my classmates. They have always been helpful and provided valuable insights from time to time.

Abstract

This document contains the software requirements and specifications, architectural design and user interface design, implementation details, testing and user manual of “EarnEasy: A Mobile Crowdsourcing Application”. Mobile crowdsourcing is an emerging technology that has enormous potential in Bangladesh. It is a term that describes crowdsourcing activities that use information collected through smartphones or other mobile devices. Companies such as Pathao, Uber, Food Panda, Sohoz are tapping into this potential to proliferate their business. However, this is only a tiny portion of what can be done using mobile crowdsourcing. With mobile crowdsourcing we can tackle the issue of lack of communication between companies and users. The goal of our project is to help the companies to get the opinion of the crowd regarding the usage, storage, purchase of their products with a simple, reliable and trustworthy method. Thanks to various useful smartphone features, including reliable GPS, excellent cameras, as well as the easy availability of smartphones; users can work on crowdsourcing tasks without almost zero difficulties. The companies can provide any task for example stock checking, user feedback of items or surveys, just-in-time checking on product situations or other simple tasks that can help with the company’s growth, prestige, popularity or profit to the users of the application. As a simple task it does not need any device other than a smartphone. The users will complete the task to earn the financial benefits that the companies offer. It will create a large body of working people and help mitigate the problem of unemployment in our country. In the era of Digital Bangladesh this project can become the gateway that connects both the companies and people. This way the companies and the users both can gain benefits through a mutual win-win situation. This document can be followed to develop a mobile crowd sourcing application.

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# INTRODUCTION

This project is aimed to use Mobile crowdsourcing for providing financial benefits to end users and at the same time participating companies or organisations can benefit by seeking knowledge, goods, or services from a large body of people. EarnEasy is a software that will create an efficient , simple and reliable platform to connect the companies and people.

Crowdsourcing is the generalized act of outsourcing tasks, traditionally performed by employees or contractors, to a large group of the Internet population (the wise crowd) by means of an open call. With the great development of smartphones with rich built-in sensors and ratio interfaces, mixing smartphone-based mobile technologies and crowd sourcing offers vast computing resources, and leads to a new paradigm called Mobile Crowdsourcing (MCS). It involves obtaining work, information, or opinions from a large group of people who submit their data via the Internet, social media, and smartphone apps. It allows companies to farm out work to people anywhere in the country or around the world, which lets businesses tap into a vast array of skills and expertise without incurring the normal overhead costs of in-house employees. As an alternative to traditional financing options, crowdsourcing taps into the shared interest of a group, bypassing the conventional gatekeepers and intermediaries required to raise capital. So, this project will aim to create a crowdsourcing platform to connect companies with general populations.

This chapter describes the purpose, scope, assumption, and definitions of the “EarnEasy: A Mobile Crowdsourcing Application” System

## PURPOSE

The purposes of this document are:

* Identify the requirements that have to be carried out as the part of the project.
* Form the baseline for construction of the proposed system.
* Help to reduce the development effort and reveal misunderstandings, and inconsistencies early in the development cycle when these problems are easier to correct.

## SCOPE

The scope of the project is given below:

* This project will work on only android system.
* It will be developed and tested by flutter and android studio.
* The system will only work with image and text.
* The workers will use smart phones to run the client side application.

## ASSUMPTIONS

The assumptions of the project are:

* The underlying network is completely reliable.
* User will have reliable internet and GPS connection.

## DEFINITIONS

This report uses the following terminologies in its description.

### Mobile Crowdsourcing

Crowdsourcing is a business model or function that relies on a large group of users as third parties for outsourcing certain tasks. Mobile crowdsourcing is using smartphones as the medium of crowdsourcing strategies . The popular use of the internet makes communication and coordination progressively cheap , tasks that would have been impossible to communicate and coordinate before have become extremely easy to set up and coordinate.[2][3] Crowdsourcing can add significant value to a product or service, and can also generate valuable connections between the users and the company.[4] Crowdsourcing is the practice of engaging a ‘crowd’ or group for a common goal often innovation, problem solving, or efficiency. Crowdsourcing can take place on many different levels and across various industries.[5]

Add more terminologies if required….

# ELICITATION

## INTRODUCTION

Requirements Elicitation is a part of requirements engineering that is the practice of gathering requirements from the users, customers and other stakeholders. Many difficulties were faced, like understanding the problems, making questions for the stakeholders, limited communication with the stakeholders due to a short amount of time and volatility. Though it is not easy to gather requirements within a very short time, these problems have been surpassed in an organized and systematic manner.

## ELICITING REQUIREMENTS

The main task of this phase is to combine the elements of problem solving, elaboration, negotiation and specification. The collaborative working approach of the stakeholders is required to elicit the requirements. The following tasks were done for eliciting requirements-

* Quality Function Deployment
* Usage Scenarios
* Elicitation of work products

## QUALITY FUNCTION DEPLOYMENT

Quality Function Deployment (QFD) is a structured approach to defining customer needs or requirements and translating them into specific plans. It turns subjective quality criteria into objective ones which can be used to design and manufacture the products. This methodology concentrates on customer satisfaction from the software engineering process. The following requirements are identified by QFD-

### Normal Requirement

* User-Friendly Interface
* Accessible via the internet
* Allow valid users assign/find tasks.
* Sort tasks based on money/distance.
* Limit access to the functionality of the system based upon user roles

### Expected Requirement

* Payment system integration
* Error-free software
* Map facilities
* Super Admin monitors all activities
* Provide Search Facilities

### Exciting Requirement

* Work scheduling based on user merit.
* Showing tasks based on zoom level.

## USAGE SCENARIO

This project will explore the huge untapped potential of mobile crowdsourcing in the context of our country . Our objective is to use mobile crowdsourcing to create an application that connects both the users and the companies . We want to create a workable , sustainable and maintainable crowdsourcing platform to  create opportunities for both individuals and companies alike to use crowd engine .

The basic architecture of the project .

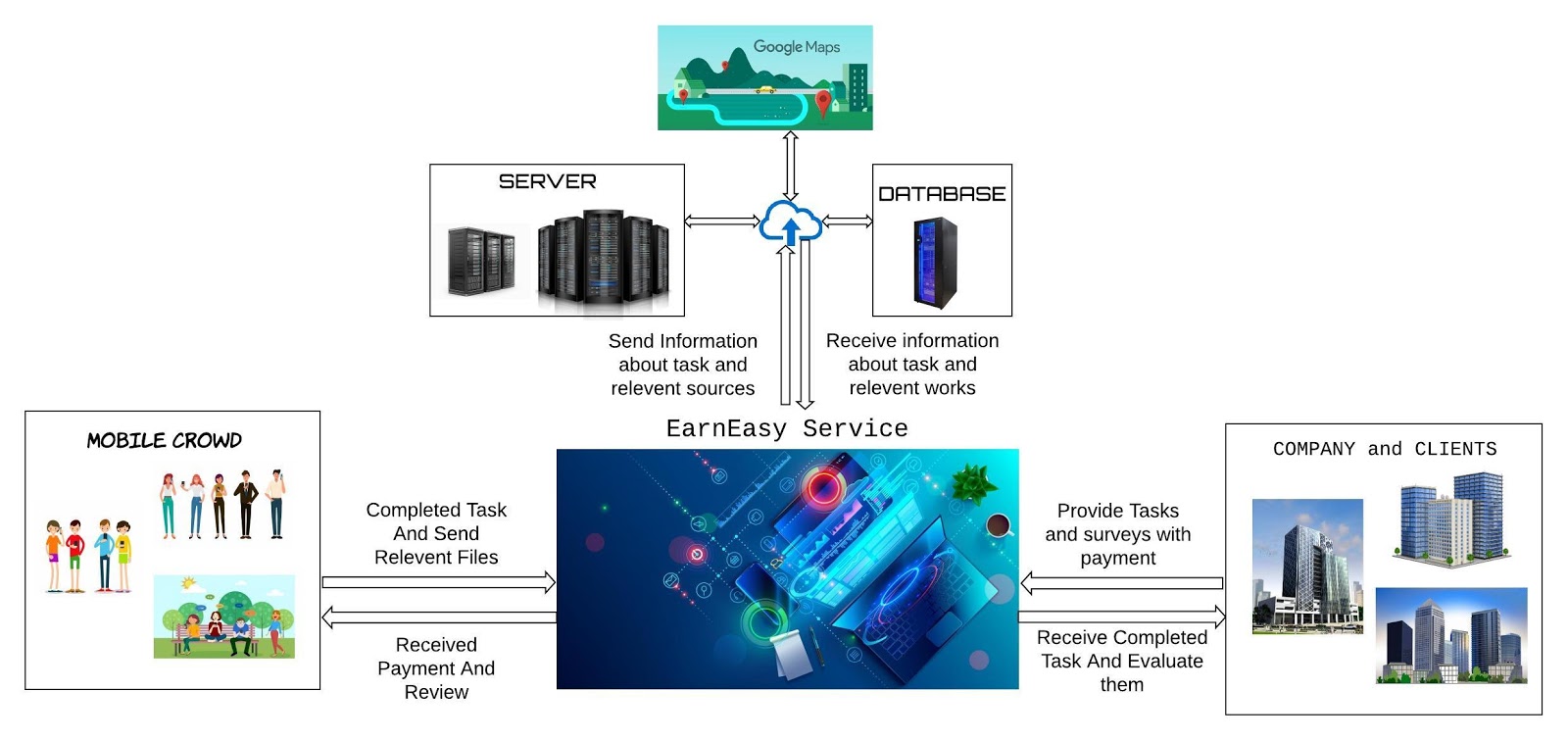


Figure 1 EarnEasy Service Usage Senario

EarnEasy will connect the companies and the users. The companies can provide tasks or surveys with adequate payment,  work description and location for the task. Through the app the users can search for the available tasks in any area or near their location. The users will need to get to the designated area to accept and start a task. We can see the user location by using the gps of the user . Tasks will be very simple  like taking some pictures of some products or completing a survey and answering some questionnaires . After completing the task the users can send the necessary images via the mobile app . The companies then can compare the documents with their requirements . If okay,  the companies can send the money through the  payment service of the application . Otherwise they can give further instructions . To maximize data connectivity we will use AWS servers . We will record all transactions to prevent any miscommunications. For better location service we will use Google Maps api . Many services will be provided to the users of the application . There will be two major types of service based on the type of the user.

**Company Features**

Companies that use our app will be entitled to many services . Such as -

**Privilege of issuing tasks -** Companies can issue any task that they want . They can issue the task multiple times in multiple places . They can also choose to restrict the tasks according to the level of workers .

**Count workers in a given area -** The companies can not see the location of an individual worker but can see the number of workers in a given area .

**Task rights -** Companies retain the rights  to  change , stop , delete or invalidate any task that they have issued.

**Rate Worker Performance -** They can rate the worker based on their task completion.

**Member Features**

Normal users or members will be entitled to many services . Such as -

**Accept any task -** Members can accept any task according to their choice.

**Sort tasks -** Members can sort tasks according to payment,  area, difficulty,  distance etc.

**Anonymity -** Members are anonymous  to the companies .  The companies can only see the level and rating of the members.  Their personal information will be hidden.

**Rate task -** The users can also rate the task after completing it.

# SCENARIO BASED MODELING

This chapter describes Scenario Based Modeling of the system.

## USE CASE DIAGRAM

# DATA-BASED MODELING

This chapter presents ER diagram and schema tables of the MalFinder Cloud based Malware Detection System.

## ER DIAGRAM

## SCHEMA TABLES

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# CLASS BASED MODEL

This chapter describes the class based modeling of the MalFinder Cloud based Malware Detection System.

## UML

## CRC CARD

# ARCHETYPE DEFINITION

This chapter describes architectural overview and architectural context diagram of the MalFinder Cloud based Malware Detection System.

## ARCHITECTURAL OVERVIEW

## ARCHITECTURAL CONTEXT DIAGRAM

# MAPPING REQUIREMENTS TO SOFTWARE ARCHITECTURE

This chapter presents the implementation details of the MalFinder Cloud based Malware Detection System.

# TESTING

I have used black box testing technique to test the MalFinder Cloud based Malware Detection System. All the tests have been conducted on Windows 10 (64-bit).

## HIGH-LEVEL DESCRIPTION OF TESTING GOALS

## SUMMARY OF ITEMS AND FEATURES TO BE TESTED

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