

# System Requirement Specification for A Mobile Barter Shop

**-EPIC FAIL-**

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# 1 INTRODUCTION

## 1.1 Problem Definition

People or companies without cash money often have trouble to continue shopping or trading, especially at economic crisis. A system called barter which is basically an exchange system exists in foreign countries except for Turkey. 40 percent of world trade is done by barter system. The main challenge of the problem is, system basically needs two people with mutual wants.

## 1.2 Purpose

The purpose of this document is to present a detailed description of the **B-xchange**, an android application. It will explain the purpose and features of the system, interfaces of the system, what will the system do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for the acquirer which is the owner in this case.

## 1.3 Scope

This software system will be an android application for any people or any companies who want to use barter system in their daily life or for company interests. The system will be designed to help the user to:

- Put goods/services to the barter market
- Search for goods/services at the market
- Follow goods/services
- Manage previous trades/ exchange history

- Filter search according to geographic information
- Continue trade without having real money

## 1.4 Definitions, acronyms, and abbreviations

TERM	DEFINITION
Database	Collection of all the information monitored by this system.
User	Any person or company logged on the system.
Android	A mobile device operating system developed by Google Inc.
Social Media	Facebook or twitter.
IEEE	The Institute of Electrical and Electronics Engineers (IEEE) is a professional association headquartered in New York City that is dedicated to advancing technological innovation and excellence.
Software Requirements Specification (SRS)	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
Eclipse IDE	Eclipse is a multi-language Integrated Development Environment comprising a base workspace and an extensible plug-in system for customizing the environment.

## 1.5 References

IEEE STD 830-1998,

IEEE Recommended Practice for Software Requirements Specifications IEEE Computer Society, 1998.

## 1.6 Overview

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the general factors that affect the product and its requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. This subsection of the SRS will list each of the factors that affect the requirements stated in the SRS.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

The fourth chapter describes the information domain for the software such as data description, data objects.

The fifth chapter of this document will provide a description of the behavior of the software.

Last chapters of this document will contain Planning, team structure, a basic schedule, process model and conclusion part.

## 2 OVERALL DESCRIPTION

In this part, the system allows users to upload or search any desired items or services. In order to do this, background information about specific requirements of the system will be provided briefly. In **B-xchange** the user can keep personal information of items, favorites, ratings etc. and then the application will run along and communicate with a database server and web-services running in between each part of the system.

### 2.1 Product Perspective

**B-xchange** is a mobile application with a web service in order to get shopping items or services. The mobile application will work on mobile Android devices. It will have functions as data managing, web based searching, items collecting (selling or favorites ), messaging with users. When users run the application, they can use the functionalities the device. All information will be kept on database which can be accessed by users with or without login.

## 2.2 Product Functions

**B-xchange** consists of these main tasks:

- Authorization
- Authentication
- Data Managing
- Web based search
- Messaging

To start with non-login, by using items search, every user may see the selling items which he/she published on the site. When users select items, he/she can go to that item's page which contains item details, item's photos and selling username. If users decide to buy or trade any items or services, they have to login with existing account or sign up with username and password. So they have own page to manage and edit data about their own items or messages and also can see other users' profile to get information about selling rates and read feedbacks of the items that other users had sold.

## 2.3 Constraints, Assumptions and Dependencies

Users of this application are any Android device user that loads this application to their devices. All of the users are in the same class, only one type of user exists. Operating environment is, as just mentioned above, is an Android OS mobile device. An android device that can support basic dependencies of the application is expected for proper user experience. On the other hand, our database server and services can operate on any OS like Windows or Ubuntu that can supply the database server's fundamental dependencies and needs. One important constraint is privacy and security. Users should be accessing only the authenticated data.



### 3 SPESIFIC REQUIREMENTS

In this chapter and its sections, the requirements are explained.

#### 3.1 Interface Requirements

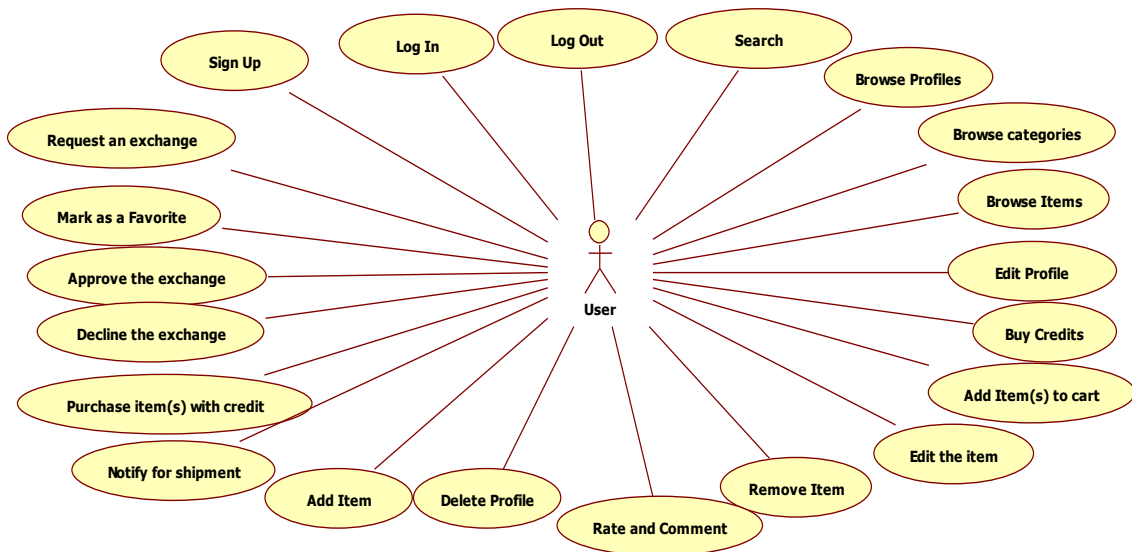
There will be two interfaces in our system, one will be between user and system, and the other will be between system and database.

#### 3.2 Functional Requirements

This section explains the use cases.

##### 3.2.1 Use Cases

The user has these user cases.



### 3.2.1.1 Use Case: Sign Up



In this case, user enters his/her username, name, surname, password, mail address sets a profile photo. When the user fills all necessary fields, an activation mail will be sent to users mail address. User will be able to log in and start using the system just after activating his/her account.

### 3.2.1.2 Use Case: Log In



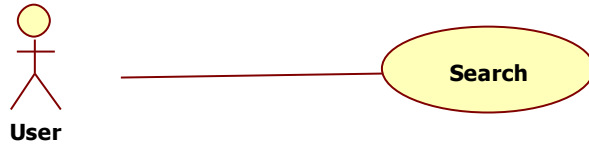
In this case, user enters his/her username or email and his/her password and logs in the system.

### 3.2.1.3 Use Case: Log Out



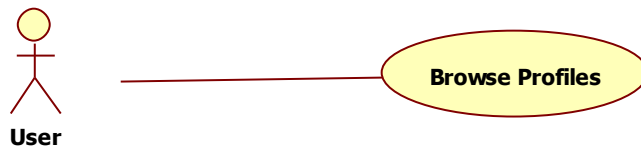
In this case, user touches log out button, and logs out of the system. The user will not use the system until he/she logs in again.

### 3.2.1.4 Use Case: Search



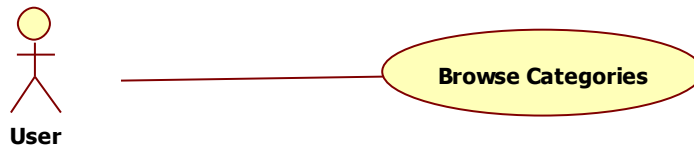
In this case, user is able to search items. User can search items according to their price, their location, their category.

### 3.2.1.5 Use Case: Browse Profiles



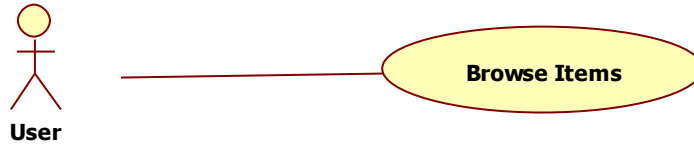
In this case, user is able to browse the profiles other users. User can see the other users' user names, profile photos, and the users' items.

### 3.2.1.6 Use Case: Browse Categories



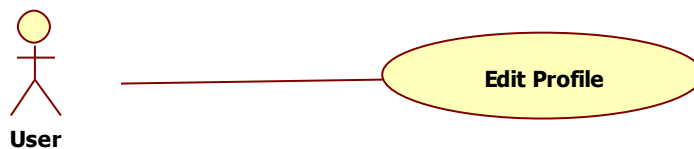
In this case, user is able to browse categories according to his/her wishes. User can also see how many items each category has.

### 3.2.1.7 Use Case: Browse Items



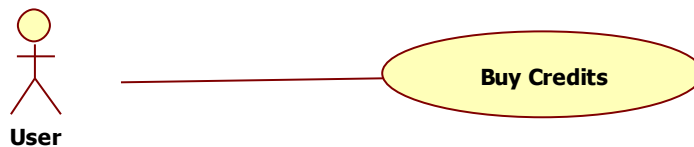
In this case, user is able browse items. User can see the items' pictures, prices, and other features.

### 3.2.1.8 Use Case: Edit Profile



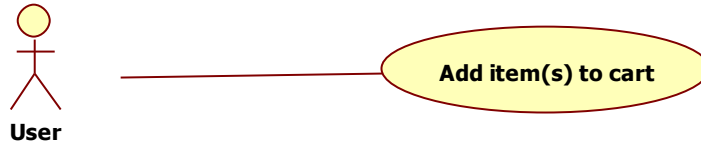
In this case, user can change his/her username, email address, profile picture and password. If the user changes his/her username or password, a notification mail will be sent to the user's email address. The changes will apply if the user clicks on the link in the email.

### 3.2.1.9 Use Case: Buy Credits



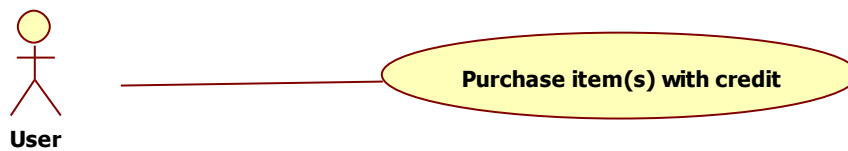
In this case, user can buy credits from the system. He/she can use credit card or his/her PayPal account.

### 3.2.1.10 Use Case: Add Item(s) to Cart



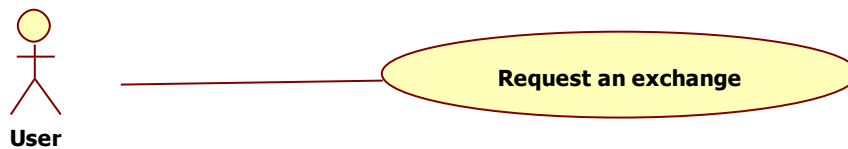
In this case, user can add the items he/she likes to his cart by touching “Add to the cart” button.

### 3.2.1.11 Use Case: Purchase Item(s) with Credit



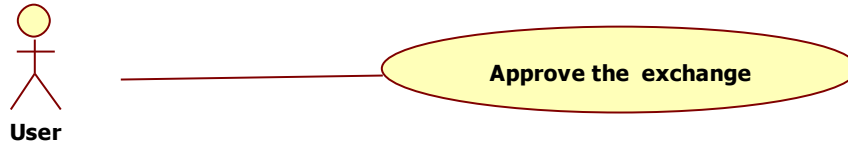
In this case, the user can buy items he/she has added to cart with credits, if the items are available for buying with credits.

### 3.2.1.12 Use Case: Request an Exchange



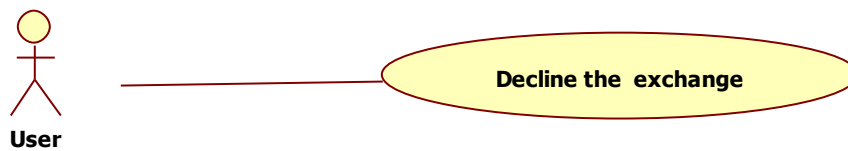
In this case, if the item the user wants is available for exchange, the user can request the exchange of items that he/she has with the item he/she wants.

### 3.2.1.13 Use Case: Approve the Exchange



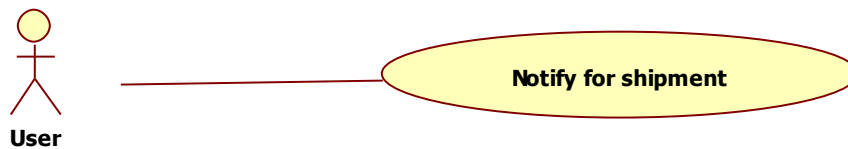
In this case, the user can approve the exchange that is offered by another user by clicking “Approve” button.

### 3.2.1.14 Use Case: Decline the exchange



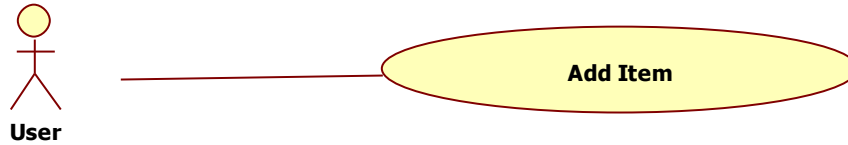
In this case, the user can decline the exchange that is offered by another user by clicking “Decline” button.

### 3.2.1.15 Use Case: Notify for Shipment



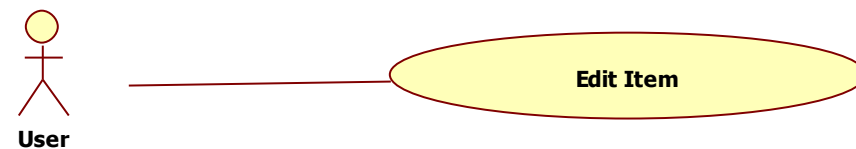
In this case, the user notifies other user that the shipment of the item has started.

### 3.2.1.16 Use Case: Add Item



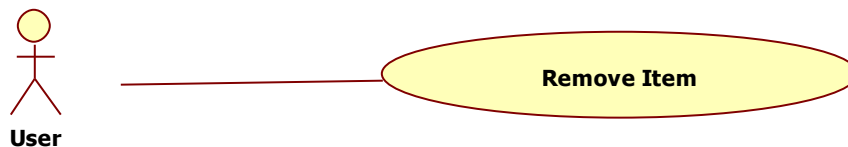
In this case, the user can add as many as items he/she wants. The user can also set the price, set the amount, upload pictures of the item and add details of the item.

### 3.2.1.17 Use Case: Edit Item



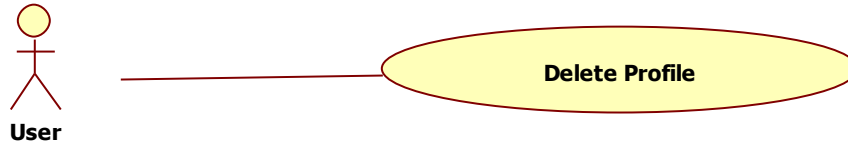
In this case, the user can edit the items that he/she has already put on the system. The user can add/remove pictures, change the price and details of the item.

### 3.2.1.18 Use Case: Remove Item



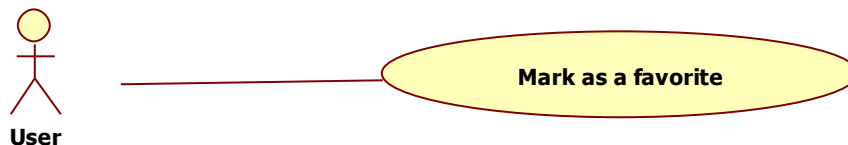
In this case, if the user no longer wishes to sell/exchange the item, he/she can remove the item from the system by touching “Remove the item” button.

### 3.2.1.19 Use Case: Delete Profile



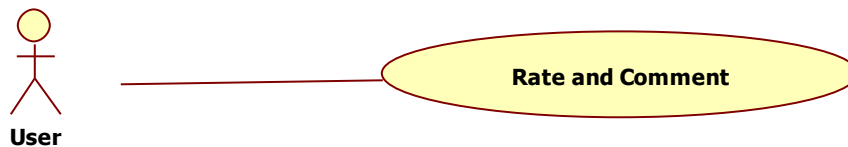
In this case, if the user no longer wishes to use the system, he/she can click “Delete Profile” button. After deleting the profile, the user will no longer be able to use the system with the account details that he entered before.

### 3.2.1.20 Use Case: Mark as a Favorite



In this case, the user can mark an item as a favorite so that he will be notified if any change is made to the item

### 3.2.1.21 Use Case: Rate and Comment



In this case, the user can rate and comment about the users whom he traded with.



### **3.3 Non-Functional Requirements**

For running the system, Eclipse should be installed on the computer. In addition, JDK, JVM or JRE must be installed too.

#### **3.3.1 Performance Requirements**

10000 users should be able to use the system at the same time. The response time of the system should be 2 seconds at most.

#### **3.3.2 Design Constraints**

We will use “waterfall method” and Object – Oriented Programming paradigm. We will use Java as programming language. The Android version of the device should be 2.3 or higher. The system requires Internet connection all the time.

## **4 DATA MODEL AND DESCRIPTION**

### **4.1 Data Objects**

#### **4.1.1 User:**

**Id:** Identity number given from database for each user. This attribute is unique for every user.

**Username:** User`s nickname for the mobile application.

**Name:** Name of the user.

**Surname:** Surname of the user.

**Password:** The user`s password for logging in to the mobile application.

Email: Email of the user that will be used for the communication information and confirmation.

Phone\_number: Phone number of the user that will be used for communication information.

Profile\_photo: A photo will be used for letting other users see the user.

Rating: The average number between 1to10 will be given by other users after their trade transaction with the user, according to their satisfaction of the trade.

Favorites: The items that the user wants to get notification about. Basically items that user want to get.

self\_items: The items that the user entered to the system to trade.

Comments: The comments written by other users who had made trade with the user.

Messages: Messages sent by other users to contact the user.

Process\_history: The list of transactions and their details of the user`s that took place before. i.e., items processed that the user got and the users gave.

#### **4.1.2 Messages:**

Id: Primary key given by database. This attribute is unique for every message.

Text: The information which is sent from a sender to the receiver.

Date: the date of the sent message.

Receiver\_id: The user who receives the message.

Sender\_id: The user who sends the message

#### **4.1.3 Process:**

Owner\_id: Owner id of the item.

Item\_id: The item that was processed.

Publish\_date: First date that the item entered the system.

Update\_dates: List of dates that the item details changed.

Trade\_end\_date: The date that the items got traded.

Receiver\_id: Receiver id of the item.

#### **4.1.4 Item:**

Owner\_id: Owner id of the item.

Description: A small description about the item that is intended to trade.

Photos: Photos of the specified item.

Category: Category of the item.

Location: Location information of the item.

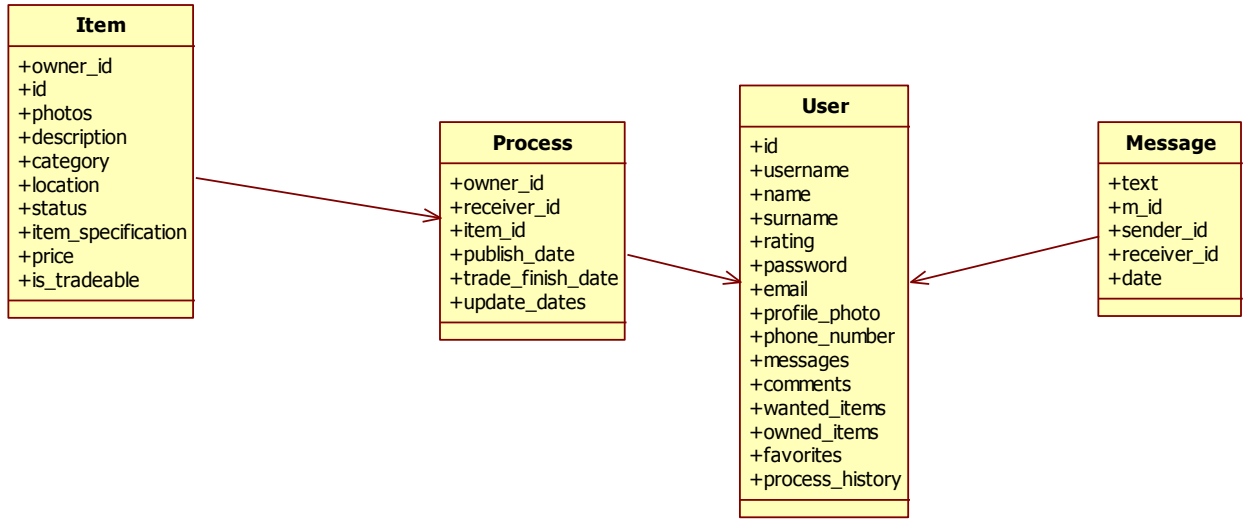
Status: Status of the item .If the items` traded then it stays in database but does not appear in the list of items.

Price: Price of the item as amount of credits

Id: id of the item. It is unique for every item.

Is\_tradeable: if owner of the item open to the exchange for another item.

Item\_specification: item`s specific details.



## 5 PLANNING

### 5.1 Team Structure

Our team named Epic Fail with members Anıl Doğan, Bahadır Hatunoğlu, Onur Özkan, Semih Baştak. Distribution of tasks as follows:

Name Surname	Student Id	Task/Job
Anıl Doğan	1678846	Project Manager
Bahadır Hatunoğlu	1560259	User Interface Designer
Onur Özkan	1679505	Software Developer
Semih Baştak	1678796	Software Developer

## **5.2 Estimation (Basic Schedule)**

Project (SRS): 30 October 2013

Project (SDD): -----

Prototype demo: Second Semester

Project (STD): Second Semester

Project (STR): Second Semester

## **5.3 Process Model**

We are using waterfall process model. In general, this model may be considered as having six different phases:

1. Requirements Analysis
2. Design
3. Implementation
4. Testing
5. Installation
6. Maintenance

## 6 CONCLUSION

In Conclusion, in this document, we have defined how should be **B-xchance** Project in detail. This is the first version plan about the project, therefore some details may update/add to newer versions of the document also some parts can be removed because of unpredictable reasons. While we are implementing the project, these add/update/remove processes will be shown in the update documents.