A Software Design Specification

For

"Group 4"

NIT-KET

Version1.0

By –Priyanka Ekka
Amit kumar Soni
Sarvesh Singh
Somnath Samanta

12th February,2017

Mentor: - **Febna M.K.**
Sameer M Thahir

NATIONAL INSTITUTE OF TECHNOLOGY , CALICUT

Revision History

Version	Date	Author	Change Description
1.0	January 15,2017	Earlier Team	Initial version
1.1	January 19,2017	Earlier Team	Functional Requirements and other errors
1.2	February 12,2017	Priyanka Ekka, Somnath Samanta, Amit Kumar Soni, Sarvesh Singh,	Class Diagram, Sequence Diagram, Activity Diagram.

Table of Contents

1. INTRODUCTION **5**

DOCUMENT OUTLINE 6
DOCUMENT DESCRIPTION 7
Introduction *7*
System Overview *8*

2. DESIGN CONSIDERATIONS **9**

ASSUMPTIONS AND DEPENDENCIES 9
GENERAL CONSTRAINTS 9
DEVELOPMENT METHODS 10

3. DETAILED SYSTEM DESIGN **11**

CLASSIFICATION 11
DEFINITION 11
RESPONSIBILITIES 11
CONSTRAINTS 11
USES/INTERACTIONS 11
DETAILED SUBSYSTEM DESIGN 12

4. GLOSSARY **12**

5. BIBLIOGRAPHY **12**

1. Introduction

NIT-KET is an Online Auction Bidding system (Web App). The main purpose of this app is to provide facilty to buy and sell item to the people relating to NITC Campus.
This App Shall Provide facility to users associated with it and in case of not associated, use can join with the system by simply Google login.
Through this web App people can find helpful information about item that is currently available for auction.
In case if People are interests to purchase any item available in site they can join auction and can make bid for that item if auction is created by seller.
This App is based on Internet so what people have to be just an internet connection and Google account.
This App Is Limited to NITC campus Only So Only people related to NITC campus (i.e. Student, Staff) can participate in Auction.

It is my desire that a completed software design specification meet the following criteria:

1. It should be able to adequately serve as training material for new project members, imparting to them enough information and understanding about the project implementation, so that they are able to understand what is being said in design meetings, and won't feel as if they are drowning when they are first asked to create or modify source code.

2. It should serve as "objective evidence" that the designers and/or implementers are following through on their commitment to implement the functionality described in the requirements specification.

3. It needs to be as detailed as possible, while at the same time not imposing too much of a burden on the designers and/or implementers that it becomes overly difficult to create or maintain.

Document Outline

Here is the outline of the proposed template for software design specifications.

4. Introduction

5. System Overview
6. Design Considerations
    - Assumptions and Dependencies
    - General Constraints
    - Development Methods

7. Detailed System Design
    - module-1 name or description
    - module-2 name or description
    - . . .
8. Glossary
9. Bibliography

Document Description

Introduction

10. To deploy a successful on-line bidding system
11. User can Sell and Buy form the system
12. Seller and buyer shall be participate in this system
13. System name: NIT-KIT
14. Provide references for any other pertinent documents such as:
    - Software engineering by Roger Pressman
    - Item description and detail and Google login API docs
    - Documents which provide background and/or context for this document
      1. https://developers.google.com
      2. http://www.uml-diagrams.org/uml-25-diagrams.html
      3. http://flylib.com/books/en/2.292.1.72/1
    - Invalid user credential shall not be permitted
15. *Application Programming Interface (API),CDN(Content Delivery Network).*
16. The purpose of this project is to build an “on-line BID system”.
    The system consists in a web-portal where registered users can propose new BID, place bids in order to buy the items on auction, send messages to other users and receive automatically confirmation via e-mail (In case Buyer be the winner)
    Auctions have a name, a description, a photo (of the related item) uploaded by users and an end period: users cannot place bids when the auction interval (start - end period) ends, but, in case there were no offers for an item.
    Moreover, administrators have the possibility to view information about users

and items and to create, modify and delete the categories of auctions (auctions regarding books, music stuff etc.).
The system is realized with a 3-tier architecture: a relational database that store the information regarding items, users, auctions and categories of auction; an application server that cares about the business logic of the system and the presentation layer that consists in the web browser where users can interact with the system.
With such architecture, the database is never directly accessed: for example seller can change the data stored in the database without connecting directly to it but using their own browser.

System Overview

- NIT-KET in a Web-Based Application which provide facility to buy and sell items via online auction system provided by the web app.
- User basically have to register themselves via Google login after then they can participate in auction created by the seller .To design this app we've used Start UML to design class diagram , sequence diagram , Online tool called creatly.com to design activity diagram.
  The basic functionality of this software is selling items to buyer.

➢ Class Diagram Design : We used start UML software to design Class Diagram . Basically this is a standalone software for various Operating Systems i.e. – Windows, Linux

➢ Sequence Diagram Design: - Sequence diagram is based on Class Diagram which explains the flow and sequence of the web App to better understand the system working flow of the system for both seller and buyer.

Activity Diagram Design: Activity Diagram is basically depends on the class diagram. The Diagram is attached as file with this submission .For more details please refer file attached.

Assumed Software And Web Services : We assumed that we are going to user web services like CDN for some web frameworks like – bootstrap , jquery.

1.2.3 Functionality:

1. Bidders can set a maximum bid and leave the system to bid on their behalf
2.Winning/Losing indicators– graphical display of the user's current position
3. Set start and end date and time for BID
4.Search item by title.
5. Multiple catalogs Search options
6.Detect mailing lists from user data
7. Buyer and seller can get email about bid winning confirmation
8. Seller can add item for bid
9. Buyer can search item by item category
10 .Buyer sellers shall use Google login integration to login to the system

2. Design Considerations

People may try to access this app without authorization access that can be resolved via Google login integration because security checkups shall be done on Google server itself these is going to reduce our web security better.

Operating Environment:

System must have a Working Operating System like Windows or Linux. Having minimum configuration as mentioned in general constraint.

Design Conventions:

The NIT-KIT software design uses the Object Oriented methodology and created using star uml.

Assumptions and Dependencies

- CDN(Content Delivery Network) for used frameworks
- Assuming that every software used in project should work properly.
- Assuming client have sufficient system required for accessing the NIT-KET web app
- Mail service should works properly.

Referred to SRS version1.1 section 2.5

General Constraints

This system is designed for NITC campus only so no other people can access this site .

Seller and buyer must be related to NITC campus so that purchase can be made only inside the campus . Seller and Buyer must have a valid Google account so that they can access website.

- PC is needed with minimum requirements of
  - 4GB RAM
  - 320 GB HDD
  - Core I3 or Higher Processor
- End User Must have minimum of 1gb RAM and at least 20 gb of HDD.
- System should available over the internet
- HTTP and HTTPs to access this webApp
- Security is Needed for Logins and Registration
- Memory must be half GB or Higher of capacity
- System Should Work Properly they should not be any interruption

HTTP , FTP

Development Methods

1 Iterative Approach is used for this software design .

Iterative process starts with a simple implementation of a subset of the software requirements and **iteratively** enhances the evolving versions until the full system is implemented. At each **iteration**, design modifications are made

and new functional capabilities are added.

3. Detailed System Design

We have used Client Server Architecture

Most components described in the System Architecture section will require a more detailed discussion. Other lower-level components and subcomponents may need to be described as well. Each subsection of this section will refer to or contain a detailed description of a system software component. The discussion provided should cover the following software component attributes:

Classification

- Seller Can Upload Item Details for auction for bidding.
- Buyer Can Search Items by category and can participate in Auction to make Bid.
- Item Class Can Have item Details and corresponding item price.
- Buyer Can make bid by makebid() function .
- User(Seller and buyer) can login into their account via Google Login Integration

Definition

The main purpose of this system is to sell and buy item via internet inside the NITC-Campus.

NIT-KET application shall provide an interface to both seller and Buyer to make bid.

Responsibilities

- Seller and Buyer both are having responsibly regarding bid.

- The Primary Responsibility of a seller is to upload accurate information of the item that they are going to upload for buyer.
- Buyers responsibility is to make valid bid amount and meet up with seller after bid has been completed .
- System's Responsibility is to send mail properly to both seller and buyer at time

Constraints

- Seller shall confirm for payment manually after completion of bidding .
- System Shall send confirmation to both seller and buyer after completion of bid.
- After completion of bidding time buyer can't be able to bid for an item.
- There Shall be some size related constraint for uploading item photo(Image)
- Local values can't be accessed outside the function.
- Highest bidding amount shall be displayed on the users screen.

Uses/Interactions

- Seller and Buyer woks as User in NIT-KET web App there is a main system of Auction which needs both seller and buyer interaction to complete the auction.
- Seller can upload item details to make an auction for buyer If seller have uploaded item but later he/she have removed that in this case buyer shall face problem with that.
- Complete System is based on Object Oriented Concept so every Object has some restrictions. There may be some object that possibly may create during run time that is anticipated. User Class in Class diagram is a Super Class.

Detailed Subsystem Design

Please refer activity diagram.

4. Glossary

1 CDN - it a a open source community of developer that provides free open source frameworks for web developer

2 Google Login API - Google provides its free API to login with their server that reduces server load time

5. Bibliography

1 http://www.uml-diagrams.org/uml-25-diagrams.html
2 https://media.readthedocs.org/pdf/staruml/latest/staruml.pdf
3 Key Strategies for Object Identification (Real time UML by Bruce Douglas)
4 http://flylib.com/books/en/2.292.1.72/1
5 Object Oriented Software Engineering Practical Software Development using UML and Java, Timothy C. Lethbridge, Robert Laganiere.

Model1::ClassDiagram1

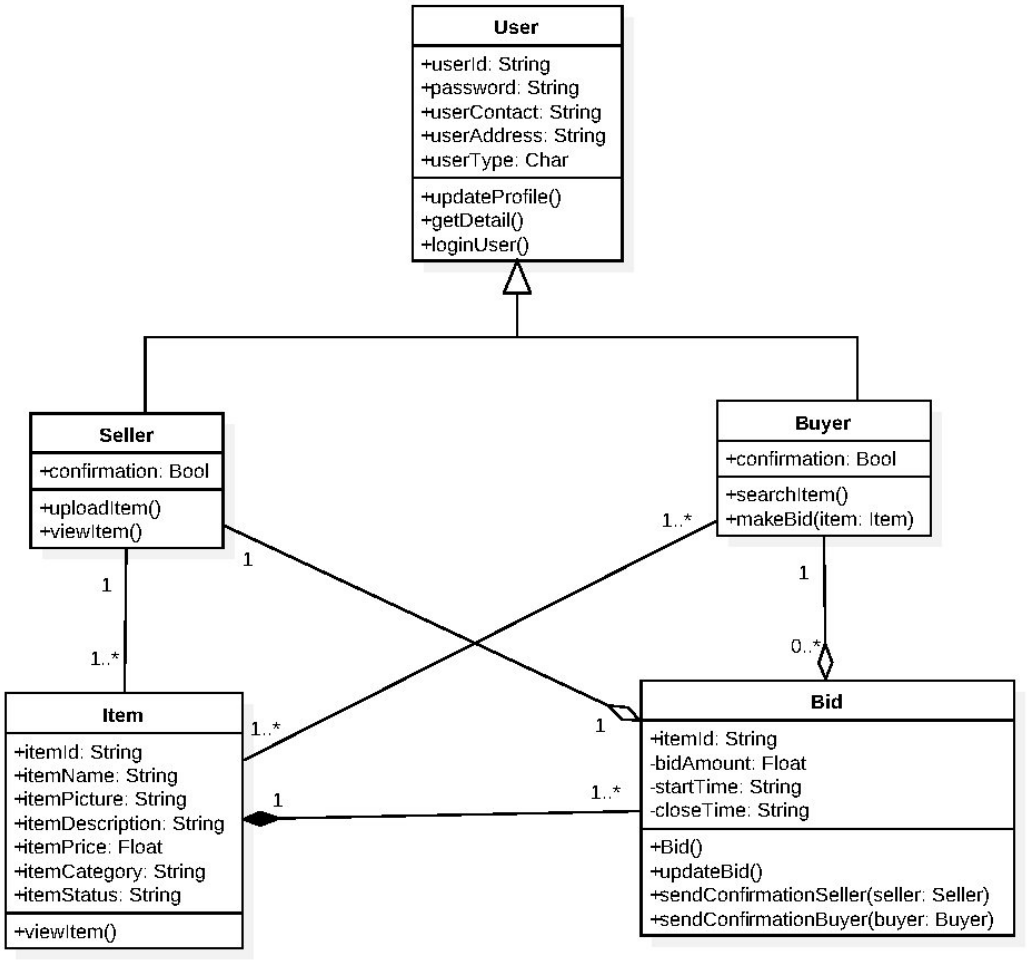
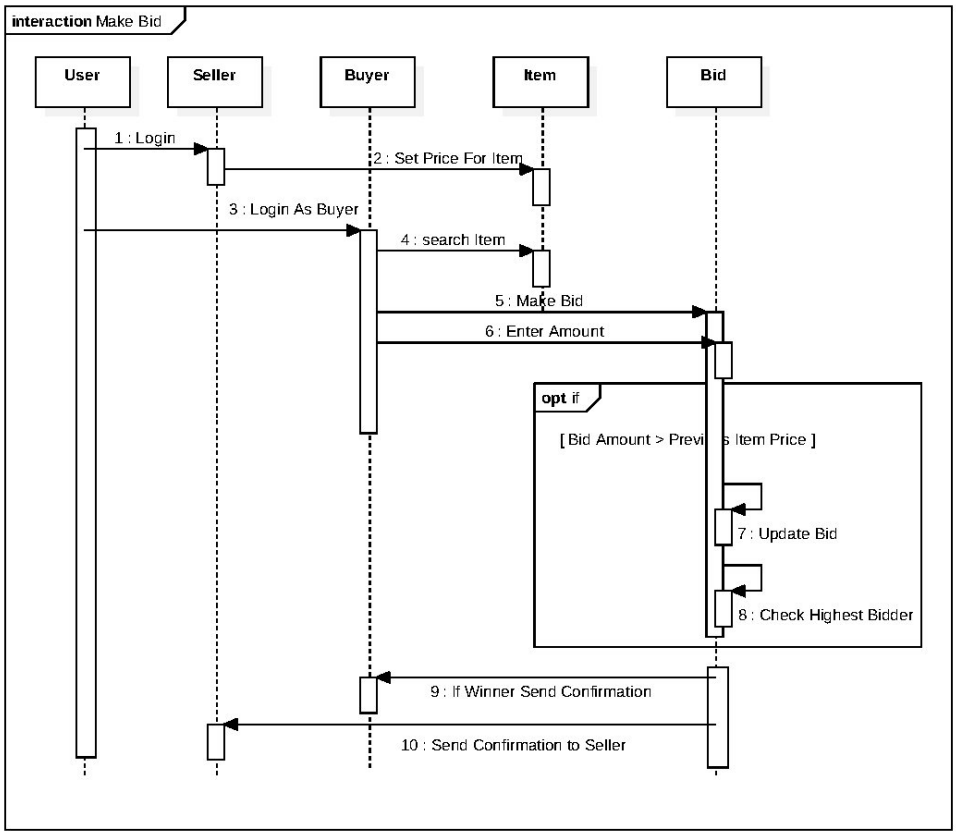


Figure ; Class Diagram



FIGURE; Sequence Diagram

Model1::UseCaseDiagram1

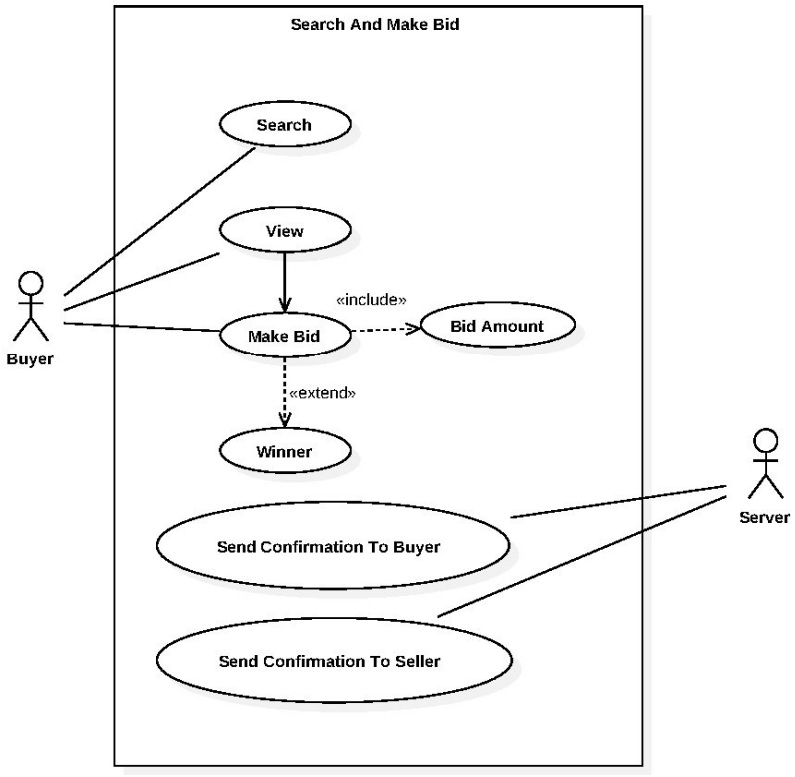


Figure :Use Case Diagram

Model::UseCaseDiagram1

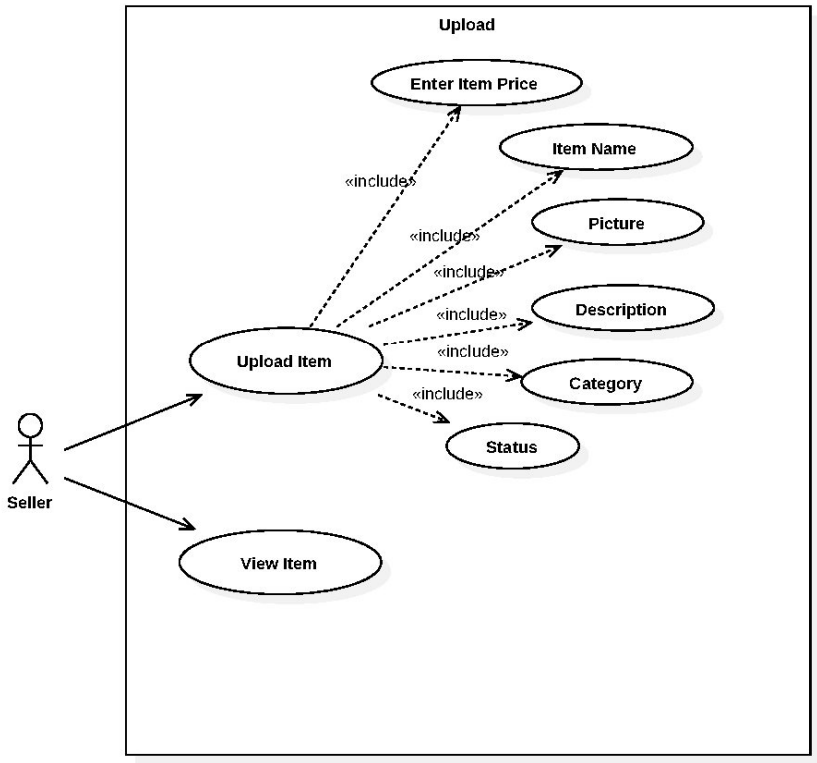


Figure : Use Case Diagram 2

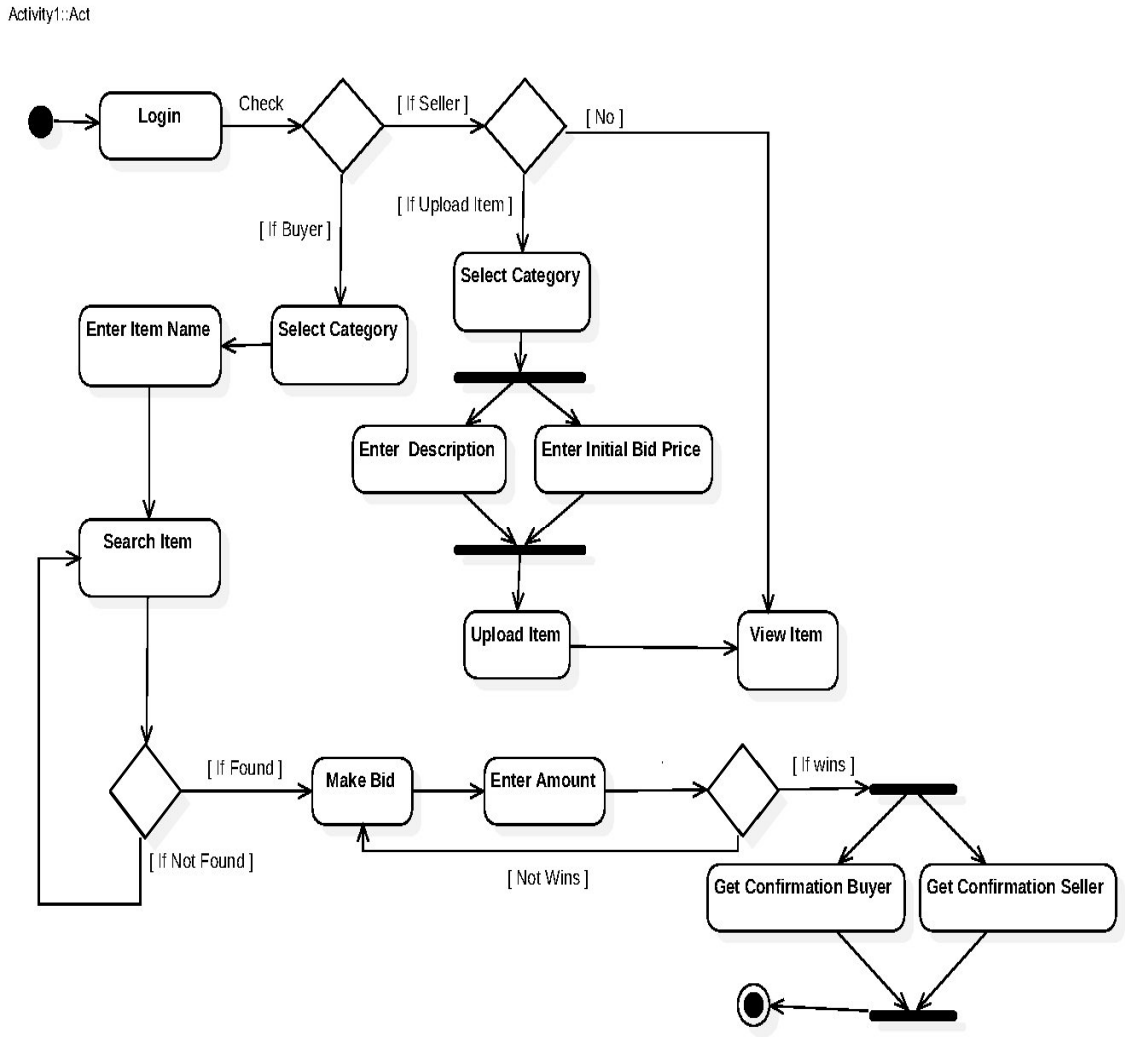


Figure : Activity Diagram