

Software Requirements Specification

Version 3.1

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Stores and Purchases Management System

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Submitted in partial fulfilment
Of the requirements of
CS 223 Software Engineering

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Version History

Version 1	Requirements, Assumptions, Glossary, Use Cases
Version 2	Added assumptions, Use-case Diagram, Sequence Diagram, Class Diagram, Activity Diagram
Version 3 Version 3.1	Deleted use cases Minor corrections and grammatical mistakes

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1.0. Introduction

1.1. Purpose

The purpose of this document is to present a detailed overview of Stores and Purchase Management System of Institute. It will describe the scope, features, purpose and functionality of the system. Also, it will throw some light on user-interface of the system along with triggers and their corresponding response(s). This document aims to serve both the developers and stakeholders.

1.2. Scope of Project

This software system will be designed to cater the needs of institute's Stores and Purchase department, to optimize the use of available resources by providing the resources to various stakeholders and return redundant items into the inventory including a provision to get repairs. This eliminates the need to manually record the available institute's resources and eases the transaction procedure.

1.3 Constraints

- 1) Stakeholders are restricted from buying goods above a certain price range.
- 2) Students (Ph.D. and M. Tech) cannot access non-listed products, for which they should go through their respective faculties.

1.4 Assumptions and Dependencies

- 1) Reimbursements of purchased goods should be handled manually by the respective authority.
- 2) Purchases for library, logistics and other departments of the institute are assumed to be handled by the respective departments.
- 3) For every order, admin verifies and ensures that the goods/services are rendered. The status of

inventory is updated after any order.

4) The admin will go through all the formalities manually.

5) Admin can enhance/optimize the purchase.

6) The software is hack-free.

7) Admin should approve the non-listed orders for further processing.

1.3. Glossary

Term	Definition
Stakeholder	Refers to Faculty or Staff or M.Tech or Ph.D. students
Request	Refers to the request made by stakeholder to the admin
Order	Refers to a purchase done by the admin to add goods to the inventory
Consumable good	Refers to the goods which exhaust with lapse of time, do not have significant disposal value
Non-consumable good	Refers to the goods which are intended to be used over the prolonged period before becoming unserviceable, unusable or obsolete, and having significant disposal value
Shareable good	Refers to the goods which can be used by more than one person (eg. printer)
Non-shareable good	Refers to goods which are pertained to a single-user-usage (eg. chair)
Listed good	Refers to the goods/items which are available in the list of inventory items for the respective stakeholder
Non-listed good	Refers to the unlisted requirement of the stakeholder
Database	Collection of all the information monitored by this system
Approval	Check if request is valid or not
Admin	Refers to the person who can alter the request status, shall be held responsible for forwarding the request to concerned authority and can access the database

1.4. References

172.16.100s.118: 8282/greenstone/collect/officeo1/index/assoc/HASH014b.dir/doc.pdf

Information from Office of Students

1.5. Overview of Document

The rest of the document is designed to provide information primarily to the developer and also explains the technical details of the software functionality.

2.0. Overall Description

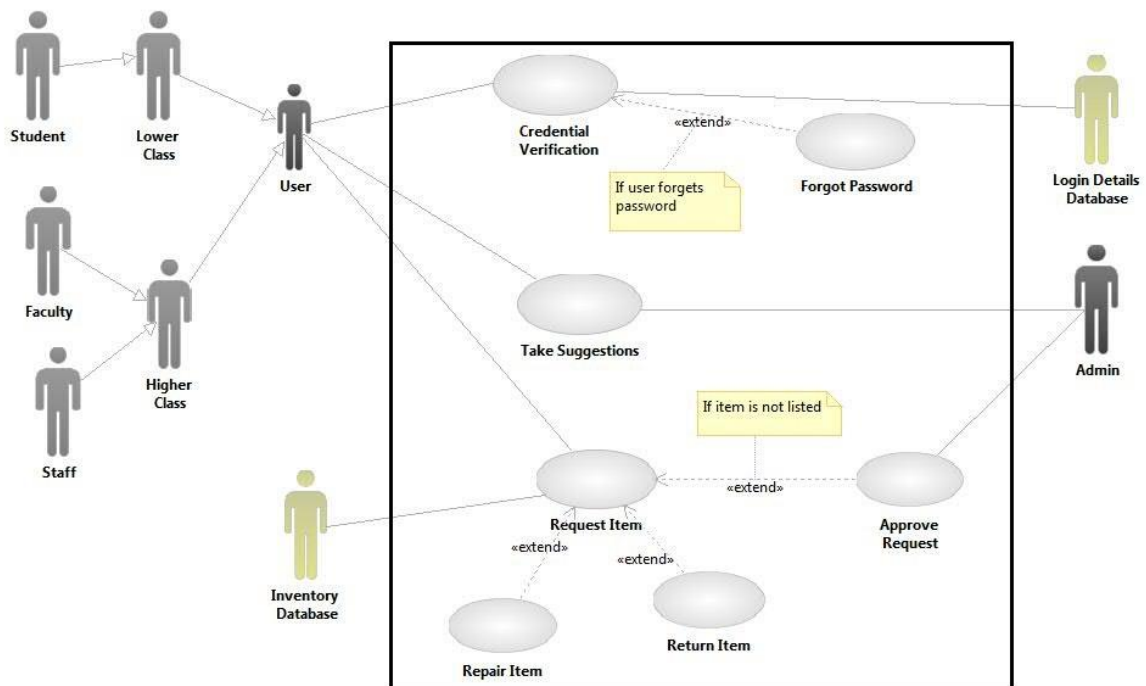
2.1 System Environment

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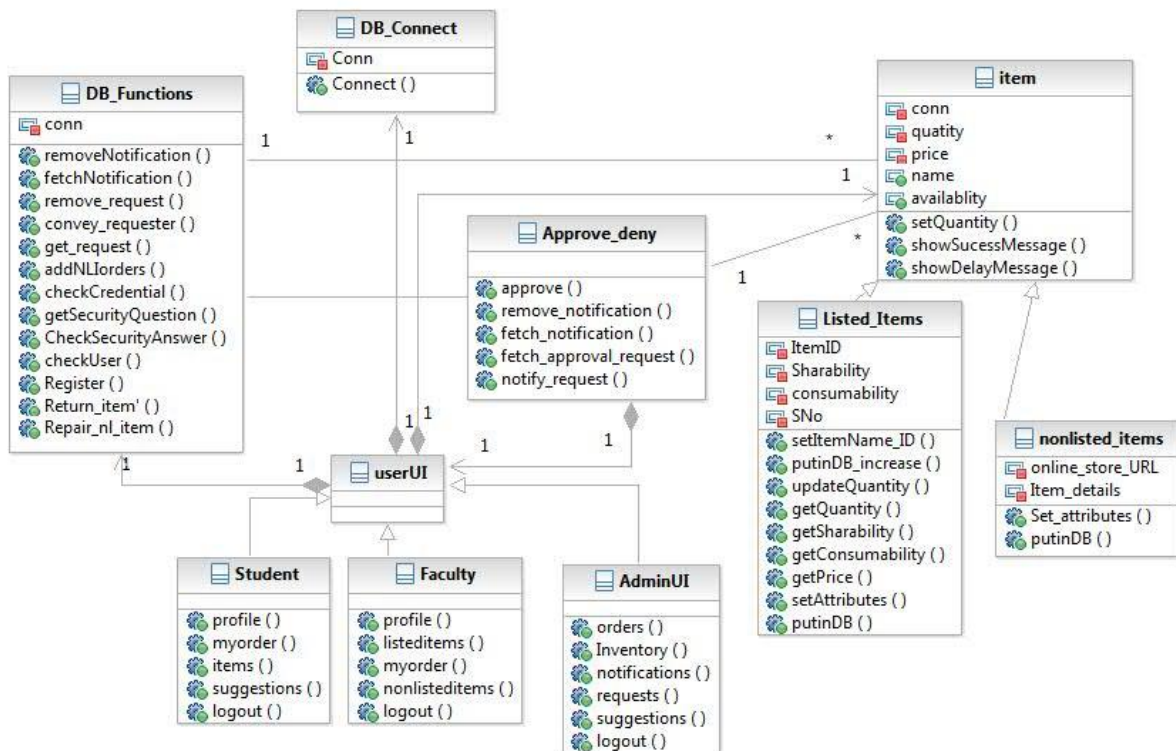
2.2 Functional Requirements Specification

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2.2.1 Use case Diagram

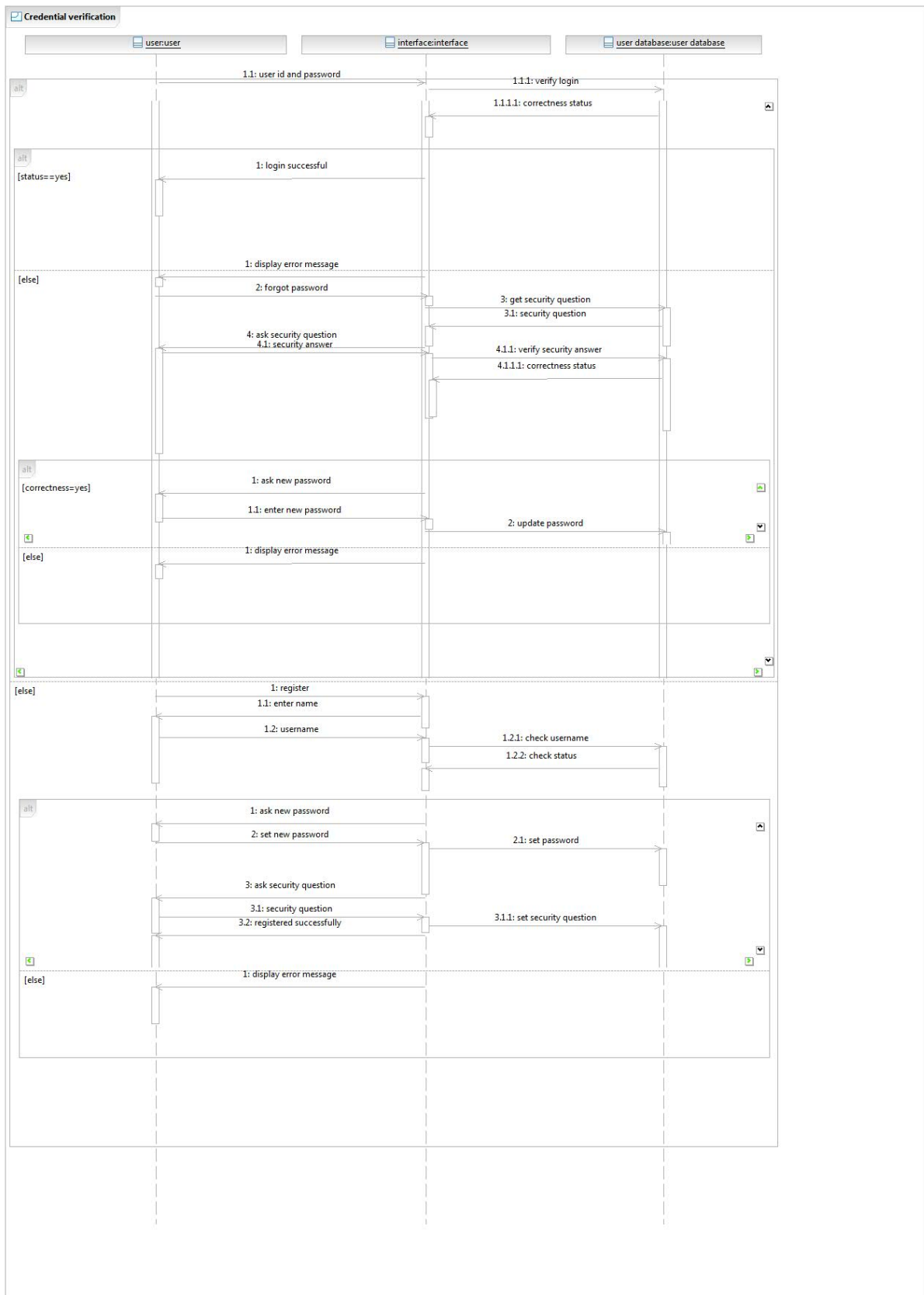


2.2.2 Class Diagram

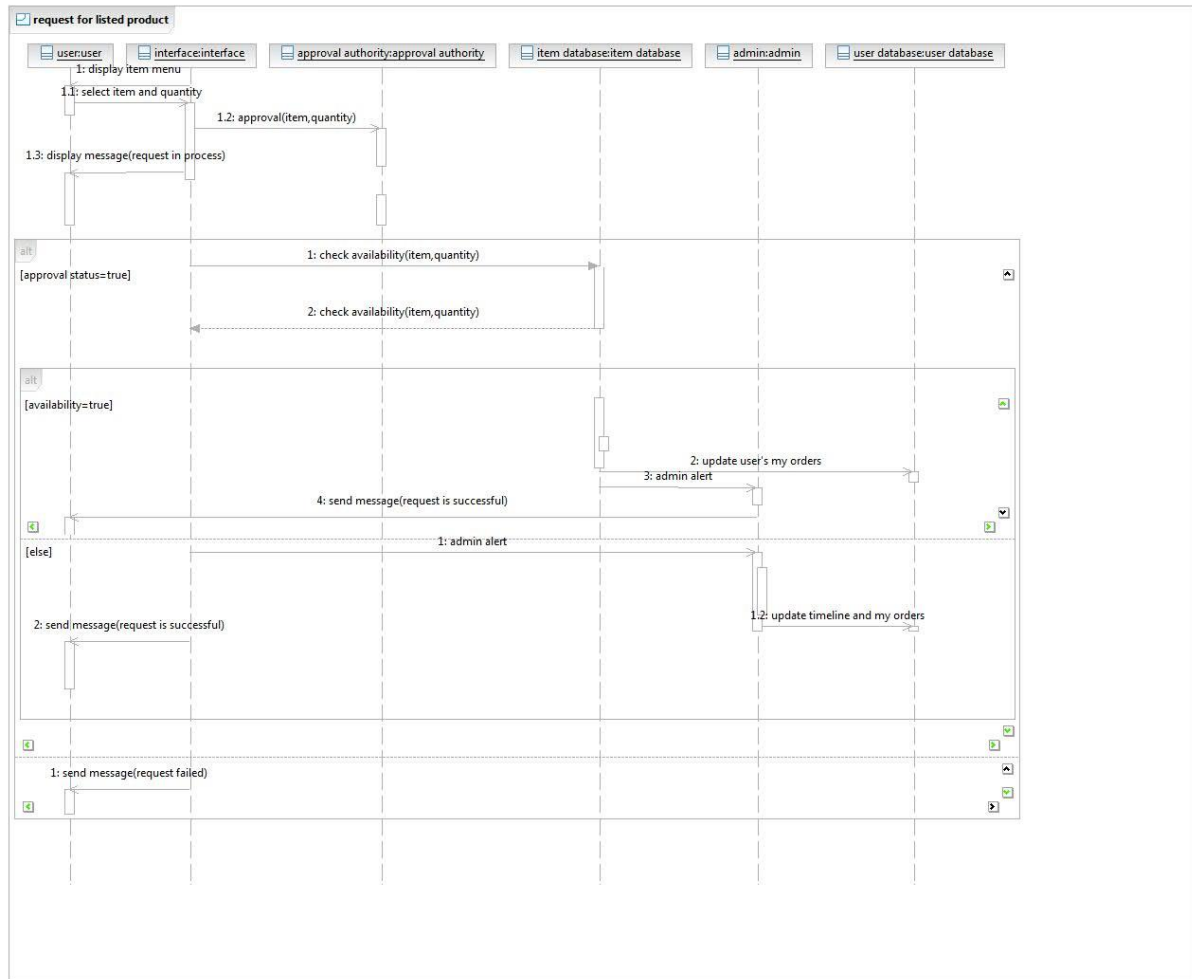


2.2.3 Sequence Diagrams

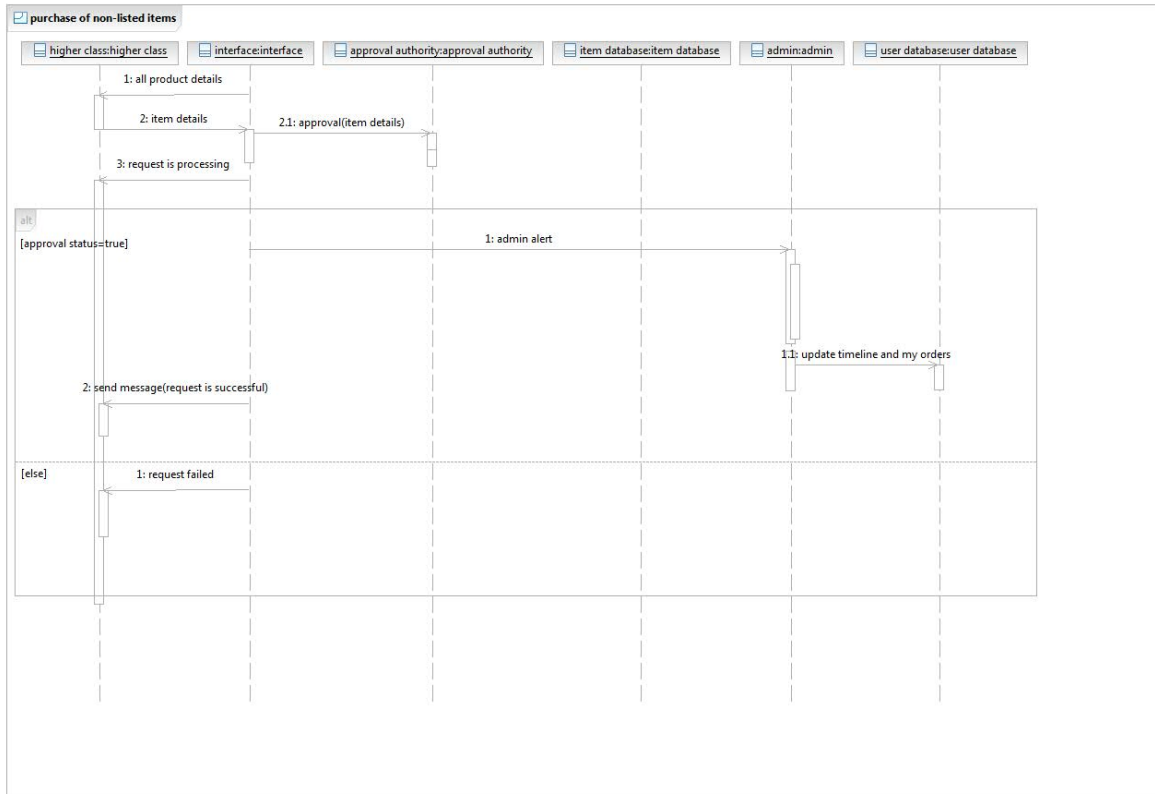
2.2.3.1 Sequence diagram for Credential Verification



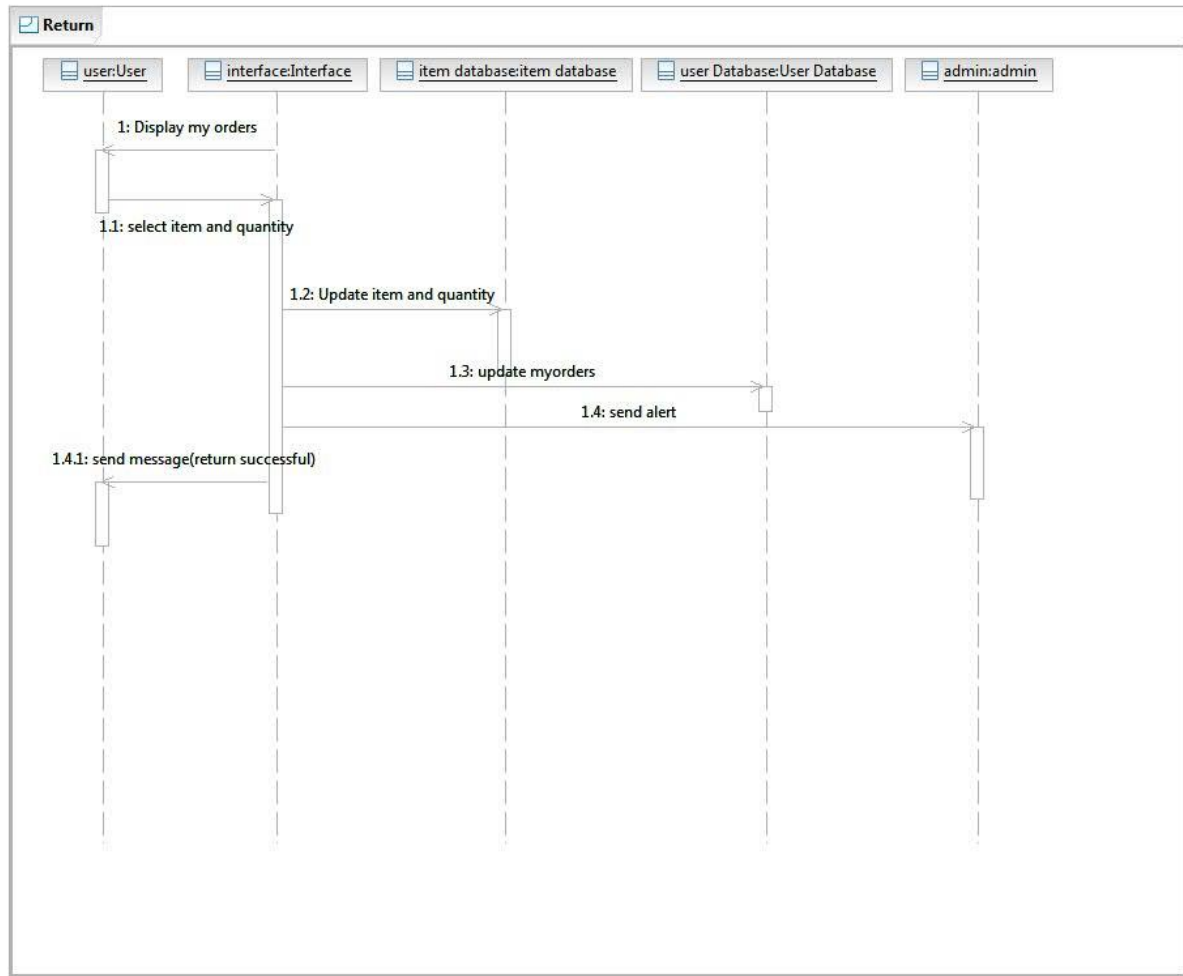
2.2.3.2 Sequence diagram for Request for Listed Products



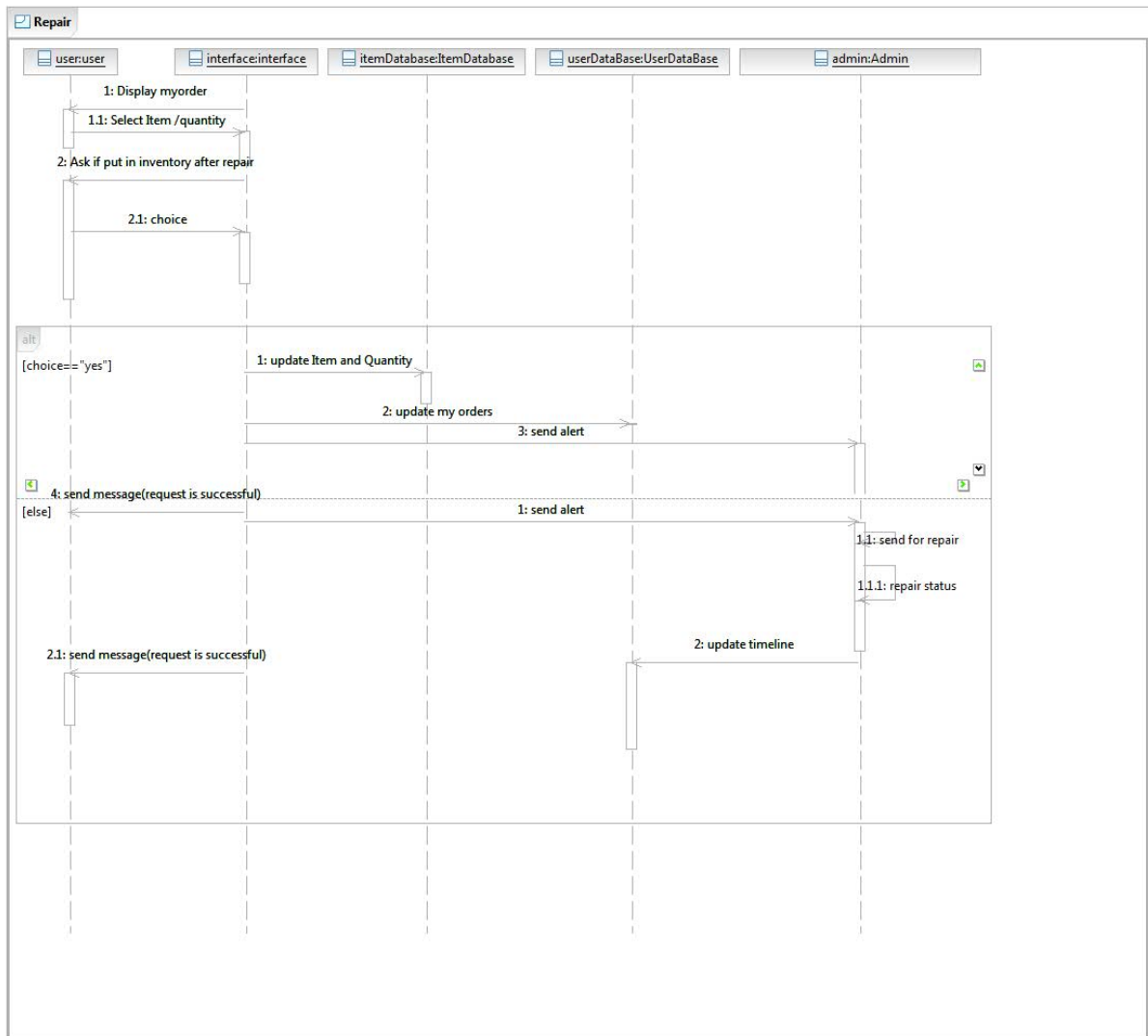
2.2.3.3 Sequence diagram for Request for Non-Listed Items



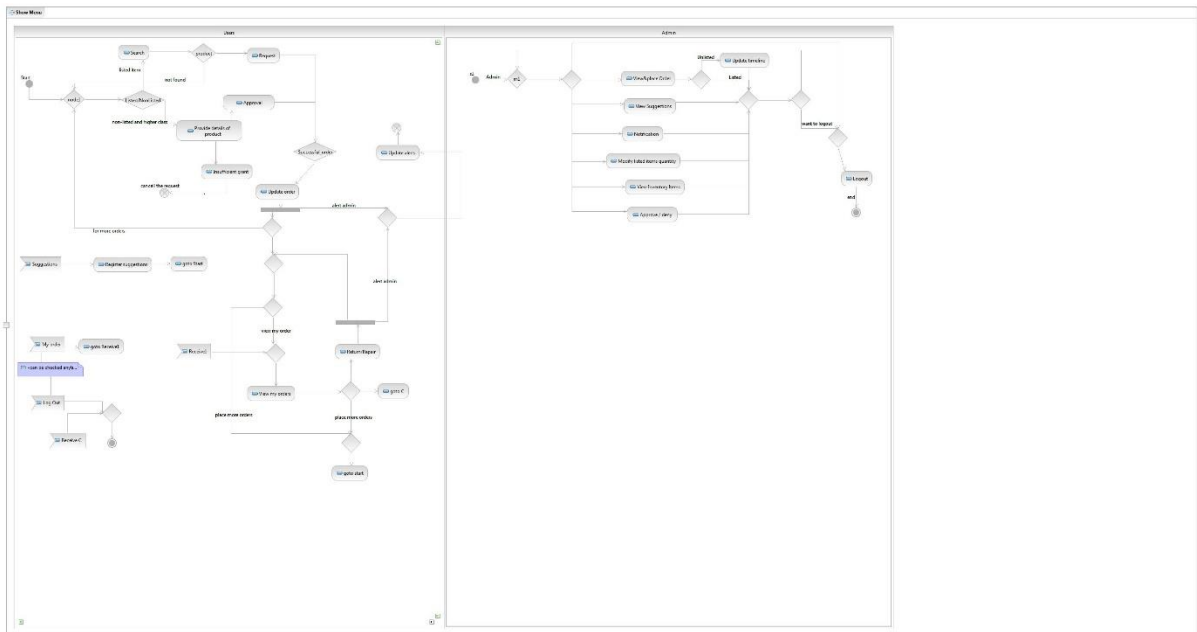
2.2.3.4 Sequence diagram for Return



2.2.3.5 Sequence Diagram for Repair



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2.3 *User Characteristics*

The user of this software system requires the basic computer usage skill and English to use this software. He/she must be a member of IITJ.

2.4 *Non-Functional Requirements*

This software will require a server with high speed Internet capability. Use of Tomcat/ apache for the connection between web pages and the database. This software will run on the user's and admin's PC. And admin's PC will contain an Access Database. Access is already installed on his computer.

3.0. Requirements Specification

3.1 Functional Requirements

3.1.1 Credential Verification

Use Case Name	Credential Verification
Trigger	Product access
Precondition	User should belong to one of the specified classes
Basic Path	Take user credentials --> Verify it with the database --> Give access if correct
Alternative Paths	Register(first time user) --> Basic Path
Postcondition	Access to the product(s) of respective class
Exception Paths	If(forgot password) --> change password by verification
Other	Server timeout for longer user logins

3.1.2 Request for items

Use Case Name	Request procedure
Trigger	Object requirement
Precondition	User must be logged in
Basic Path	If(Product is allowed)--> Enter quantity--> if available --> Allocate and update the database
Alternative Paths	If(unlisted product && user is of higher class) → Request for non-listed items
Postcondition	Request status is displayed
Exception Paths	If(quantity < requested value) --> forward request Or if(#products requested > allowance) --> display appropriate message
Other	If a user of lower hierarchy needs an unlisted product, then contact respective faculty. (Process is assumed to be manual)

3.1.3 Purchase of non-listed items

<u>Use Case Name</u>	Purchase of non-listed products
<u>Trigger</u>	Request of non-listed products
<u>Precondition</u>	User must be logged in and has to be faculty
<u>Basic Path</u>	Select non-listed category → Enter product details(model, site url, quantity and price) → Request is forwarded to the admin
<u>Postcondition</u>	Admin starts the process of ordering the requested product
<u>Exception Paths</u>	If (the price of requested items > Current grant of stakeholder) → Manual proceeding has to be followed
<u>Other</u>	People of lower hierarchy (staff, M.Tech, Ph.D.) need to contact faculty concerned to purchase the non-listed items. (Process is supposed to be manual)

3.14 Return of extra products to inventory

<u>Use Case Name</u>	Return of extra products to inventory
<u>Trigger</u>	If stakeholder no longer requires a product
<u>Precondition</u>	Product has to be non-consumable
<u>Basic Path</u>	Select the return button corresponding to the product → Enter the quantity to be returned → database of inventory is updated
<u>Postcondition</u>	Status message is displayed
<u>Exception Paths</u>	-
<u>Other</u>	-

3.1.5 Repair of damaged items under stakeholders

<u>Use Case Name</u>	Repair of damaged items under stakeholders
<u>Trigger</u>	Item gets damaged
<u>Precondition</u>	Stakeholder should hold that item
<u>Basic Path</u>	Select the repair button corresponding to the product → Enter the quantity to be repaired → Ask if the stakeholder wants to hold the item after repair or wants to return to the inventory → database of inventory is updated
<u>Postcondition</u>	Product goes for repair
<u>Exception Paths</u>	-

3.1.6 Approval of request for Non-Listed Items

<u>Use Case Name</u>	Approval of request
<u>Trigger</u>	Request initiated by a lower class member
<u>Precondition</u>	Request is successfully placed
<u>Basic Path</u>	Request is validated by approval authority→ Request is forwarded to admin
<u>Postcondition</u>	The request is either forwarded or rejected accordingly
<u>Exception Paths</u>	If the request is not valid, then it is rejected by the approval authority

3.3 Detailed Non-Functional Requirements

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3.4 Logical Structure of the Data

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4.0 Supporting information

4.1 Table of contents and index

4.2 Appendixes