# LOW LEVEL DESIGN AND IMPLEMENTATION DOCUMENT

**<TITLE OF THE PROJECT>**

**UE22CS441A – Capstone Project Phase – 3**

***Submitted by:***


| | |
|---|---|
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Under the guidance of

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**Note:**

| | |
|---|---|
| **Section 1** | **Common for Prototype/Product Based and Research Projects** |
| **Section 2 & 3** | **Applicable for Prototype / Product Based Projects.** |
| **Section 4** | **Applicable for Research Projects.** |
| **Appendix** | **Provide details appropriately** |

# 1. Introduction

## 1.1. Overview

[This section provides the overview of the low-level design.]

## 1.2. Purpose

[This section describes the purpose of the low-level design document.]

## 1.3. Scope

[This section describes the scope of the low–level design document.]

# 2. Design Constraints, Assumptions, and Dependencies

[This section describes the list of constraints, assumptions and dependencies.]

# 3. Design Description

[This section describes the design with respect to functional modules.]

## 3.1. Master Class Diagram

[A class diagram of the entire system will be given at a high level and then broken down into sub levels in each of the classes below.]

## 3.2. Module 1

…

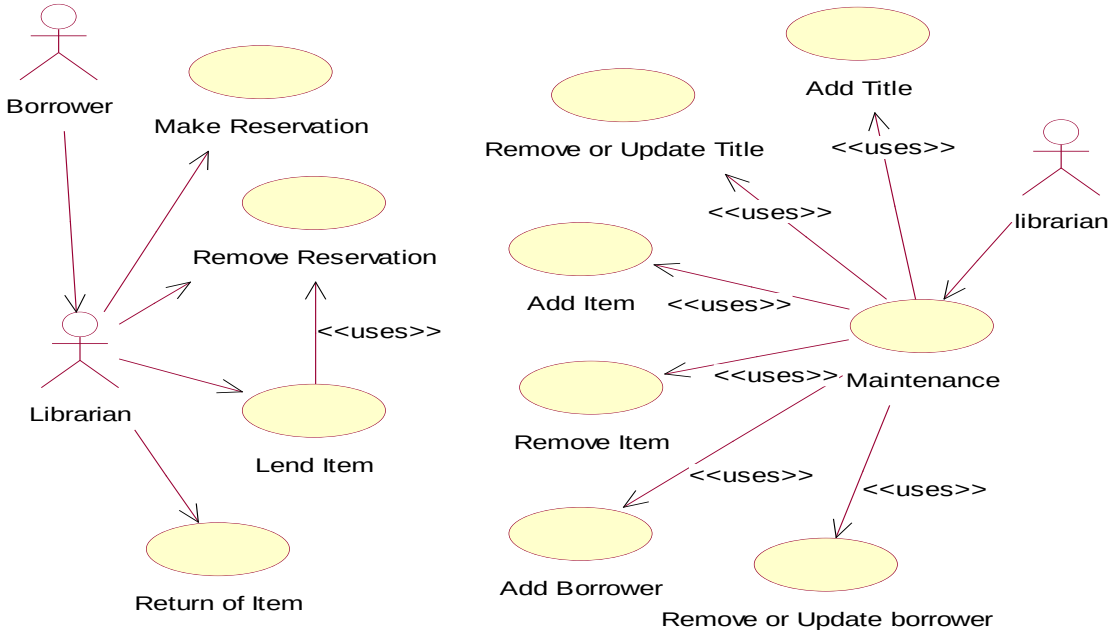
### 3.2.1. Description

[Describe in detail about the module.]

### 3.2.2. Use Case Diagram

[Depict the use-case diagram. The diagram shall be broken up into multiple levels based on the need.]

Example:

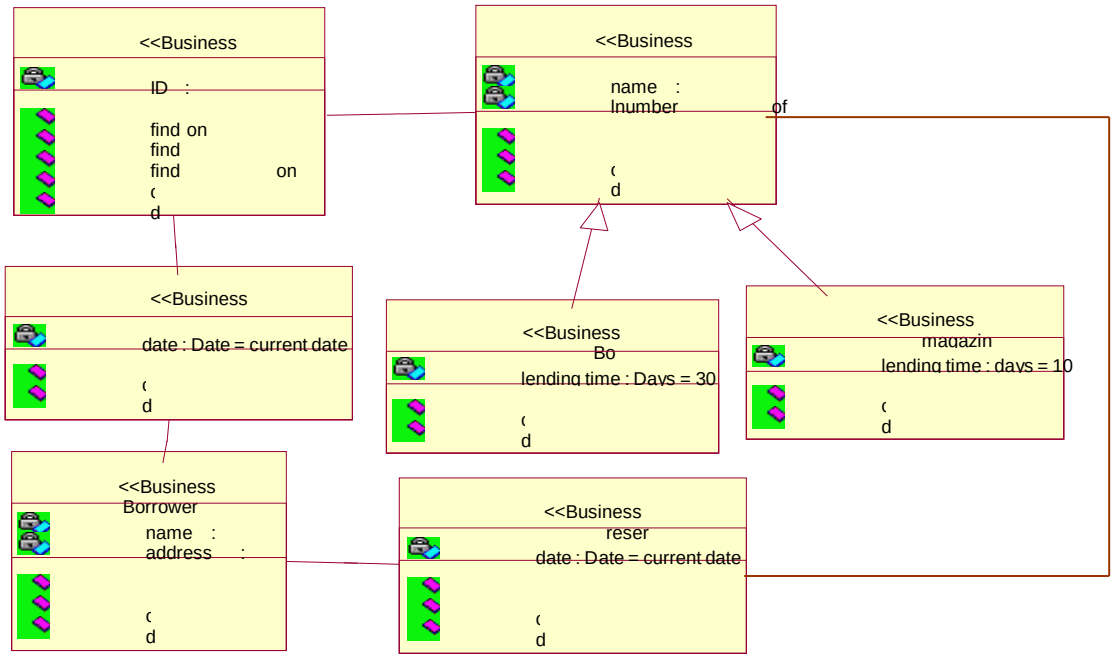



| Use Case Item | Description |
|---|---|
| | |
| | |

### 3.2.3. Class Diagram

[Description of each class in this class diagram will be given. A diagram of the entire system will be given at a high level and then broken down into sub levels. Classes maybe repeated across class diagrams, to show the interfaces with other classes.]

For Example




#### 3.2.3.1. Class Name 1

[Here, a detailed description of each class with its methods shall be described.]

#### 3.2.3.2. Class Description 1

…

#### 3.2.3.3. Data members 1

| Data Type | Data Name | Access Modifiers | Initial Value | Description |
|---|---|---|---|---|
| | | | | |
| | | | | |

#### 3.2.3.4. Method 1

The following details shall be defined for the methods:

- Purpose

- Input
- Output
- Parameters
- Exceptions
- Pseudo-code

#### 3.2.3.5. Method 2

...

#### 3.2.3.6. Method n

...

#### 3.2.3.7. Class Name 2

...

#### 3.2.3.8. Class Description 2

...

#### 3.2.3.9. Data Members 2

...

#### 3.2.3.10. Methods 1

...

#### 3.2.3.11. Methods 2

...

#### 3.2.3.12. Methods n

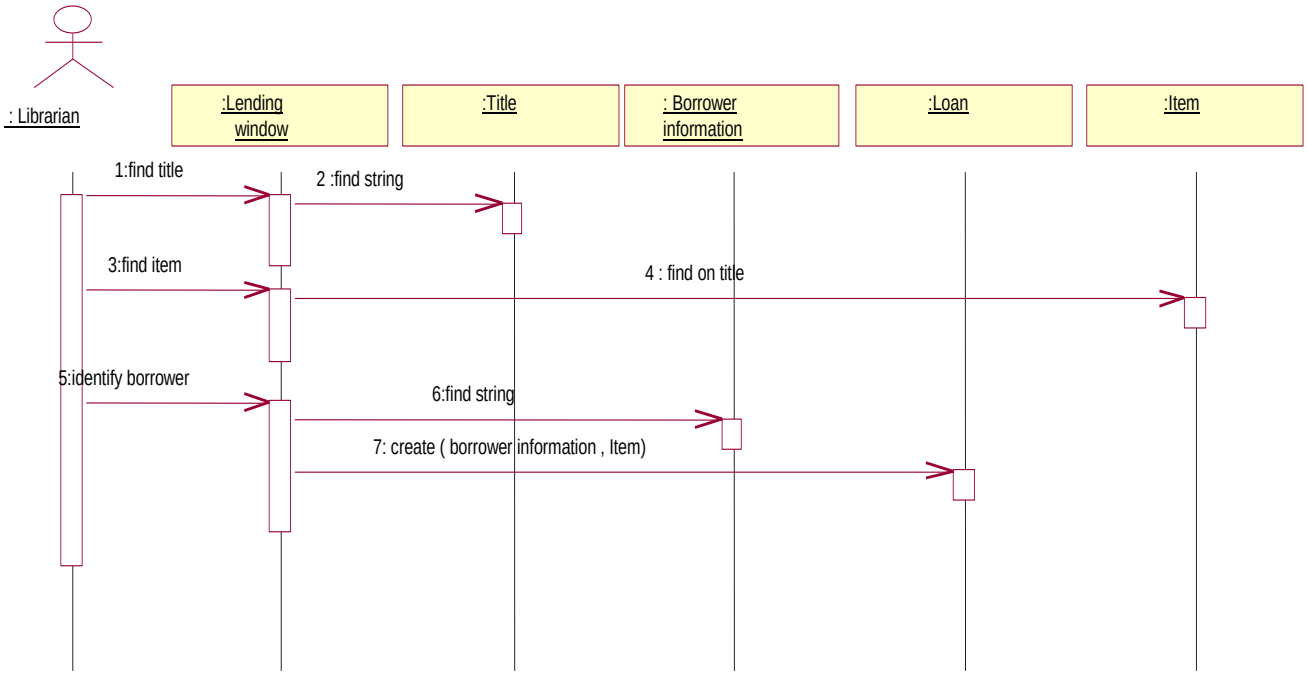
...

#### 3.2.3.13. Class Name n

...

### 3.2.4. Sequence Diagram

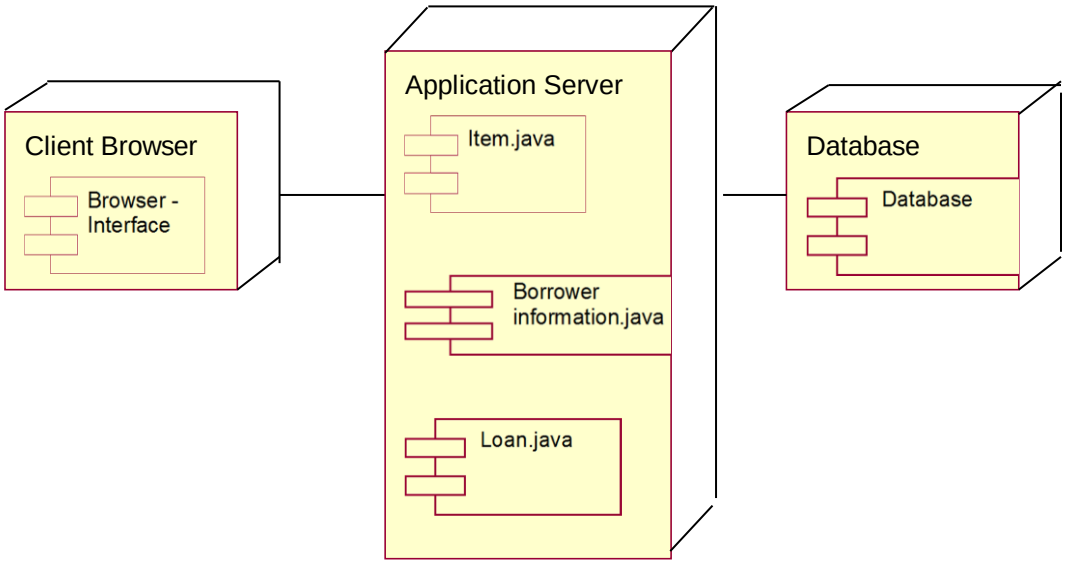
[The Sequence diagram for each module will be presented here.
For Example:



### Packaging and Deployment Diagrams

[The packaging and deployment diagrams for the system shall be presented here.]

For Example:




## 4. Proposed Methodology / Approach

[This section clearly defines the constraints involved in the design with reasons. If these constraints can be overcome by certain assumptions, they will be stated too. Dependencies, if any, in the design will be mentioned clearly.]

### 4.1 Algorithm and Pseudocode

[Add details on the Algorithm used and write Pseudocode to explain the logical workflow of the project]

### 4.1 Implementation and Results

[Add details of your approach, experimental results.

Details of how the initial approaches were fine tuned and their results

Discuss the results and the progress so far.]

### 4.2 Further Exploration Plans and Timelines (optional)

[Add information on changes, if any, in your research approach.

Timelines for changing the approach.]

## Appendix A: Definitions, Acronyms and Abbreviations

[Provide definition of all terms, acronyms and abbreviations required for interpreting this Low Level Design Document.]

## Appendix B: References

[This section describes the complete list of documents referred to prepare the Low Level Design. The reference documents shall describe the title, version number, dates, authors and publishers of the referenced documents whenever applicable. The Standards used for design shall also be clearly defined.]

## Appendix C: Record of Change History

[This section describes the details of changes that have resulted in the current Low-Level Design document.]

| # | Date | Document Version No. | Change Description | Reason for Change |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |

## Appendix D: Traceability Matrix

[Demonstrate the forward and backward traceability of the system to the functional and non-functional requirements documented in the Requirements Document.]

| Project Requirement Specification Reference Section No. and Name. | DESIGN / HLD Reference Section No. and Name. | LLD Reference Section No. Name |
|---|---|---|
| | | |
| | | |
| | | |