**Requirement Specification document**

**High School Book Tracking Application**

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**1 Introduction**

The requirement specification document is designed to specify the user requirements and can be referred in next stages of the developement of the software product. It gives the specification of the software product to be developed which are agreed upon by the customer.

**1.1 Goals and Objectives**

The primary goal of this document is to illustrate the High School Book Tracking Application's uses and functionalities to be covered as specified by the customer.

**1.2 Statement of Scope**

The High School Book Tracking Application is intended for high school students, their parents, staffs and teachers. It is basically designed to be able to keep track of books checked out to students, their due dates etc.

A staff when logged into application, should be able to add/edit/delete books, checkout books to students for a particular period of time. A teacher when logged into application should be able to checkout only those books for which he/she takes a class. A student/parent can only see his/her checked out books information and should be able to modify his/her personal details.

**1.3 Software Context**

**TBD**

**1.4 Major Constraints**

**TBD**

**2 Usage Scenario TBD**

**2.1 User Profiles**

All the users of this application should be granted access to the system before they can use it. Based on the access level, there are three types of users :

* Staff/Admin

Staff/Admin should be able to do following functions :

1. Add/Delete a book
2. Checkout book to a student
3. Search books by its departement, class, book name or ISBN number.
4. List all authorized users and their access levels.
5. List all students and parents information with amount due

* Teacher :

Teacher should be able to do following functions :

1. Checkout only those books for which he takes classes
2. List all the students of his class and their parent information with amount due
3. List all the books of which he takes classes

* Student/Parent :

1. Student/Parent should be able to do following functions :
2. List all the books that he/she has checked out
3. Add/Update personal information (Parents information, contact information)

**2.2 Use-Cases**

**2.3 Use-Case Diagram**

**2.4 Use-Case Descriptions**

**2.5 Special Usage Considerations**

**2.6 Activity Diagram (optional)**

**3 Data Model and Description**

**3.1 Data objects**

A High School Book Tracking Application stores following information :

* Books :

It stores book information along with total available books and total checked out books. Every book is uniquely identified by an ISBN number.

* Classes :

It stores details of all the classes conducted in high school. This information can be used to check which student is registered for which class or which teacher teaches which class

* Users :

It stores details of all the users who are going to use this application. All the users are uniquely identified by their user ID. Users can be of three types 'Staff', 'Teacher' and 'Student/Parent' and based on their type, acess level is granted to them.

**3.2 Relationships**

* belongs to

This relationship stores details of all the books with their corresponding class details i.e which book is referred by which class

* checkedOut

This relationship stores details of all the books checked out by students along with date it is checked out and its due date

* registers

This relationship stores information of all the students along with the classes they are registered for

* teaches

This relationship stores details of all the teachers along with the classes they take.

**3.3 Complete data model**

The features of High School Book Tracking Application is shown below in the form of ER-Diagram :



**4 Functional Model and Description (TBD)**

**4.1 Class diagrams**

**4.2 Software Interface Description**

**4.2.1 External Machine Interfaces**

**4.2.2 External System Interfaces**

**4.2.3 Human Interfaces**

**4.2.4 User Interfaces**

* Front-end Software : Java
* Back-end Software :

**4.2.5 Hardware Interfaces**

* Windows 7 onwards
* Supports Chrome and Mozilla

**5 Behavioral Model and Description (TBD)**

**5.1 Software Interface Description**

**5.1.2 Events**

**5.2.2 States**

**5.2 Statechart Diagram**

**6 Restrictions, Limitations and Constraints**

There wont be any password recovery/forgot password feature nor any lockout phase after numerous entries of invalid password.

Student can checkout any number of books, also books of a particular class for which he is not registered.

Staff/Admin can not modify book information.

Teacher can not Add/Delete any books.

'Checking out multiple books at time' feature is not available.

'Adding/Deleting multiple books at a time' features is not available

**7 Validation Criteria (TBD)**

**7.1 Classes of Tests**

**7.2 Expected Software Response**

**7.3 Performance Bounds**