**Library Management System**

(An Approach to make Library Management easy)



**Developer Team**

Mr. Maimoon Ahmed **2019-CS-42**

Mr. Ameer Baksh **2019-CS-28**

Mr. Hassan Wasti **2019-CS-40**

Mr. Umar Farooq **2019-CS-27**

Mr. Meer Hamza **(team leader) 2019-CS-29**

**Roles:**

* Mr. Maimoon Ahmed is a worthy comrade who played a key role in designing of **GUI** through his excellent ideas. He also designed a ‘Class’ name **Borrowing** and also managed software’s file handling. He is also the Co-Author of this documentation.
* Mr. Ameer Buksh is an exceptional programmer played a good role as a companion in development of project and designed ‘Class’ **Content** and its sub classes like **Book, Articles** etc.
* Mr. Hassan Wasti despite having communication gaps and less programming skills, tried his best and played a healthy role in development of project by designing ‘Class’  **Subscribers.**
* Mr. Umar Farooq despite having less programming and problem solving skills played a crucial role in **development** and **designing** of project through his exceptional ideas and also designed a key ‘Class’ **Library** for project.
* Mr. Meer Hamza as a team leader (upto you maimoon :).

**Requirement**

The basic purpose of development of this **product** is to give/submit it as a **semester final project**. Client (Teacher of this subject) required us to build a software to manage **Libraries related stuff**. A software which is capable to deal with **Admin** and **Subscribers** simultaneously.

**In Admin Section**, it is required to create a password protected section only for admin which ensure Security and allow only Admin to **Add**, **Edit**, **Delete** and view **Report** of **Overdue** items.

**In Adding item section**, it is required that the Admin always assign a **unique item id** to a **particular item** while adding it and if accidently the Admin gives a **previous id** to a **new item** while **adding** it informs the Admin that this **item already exist** through its **particular id** and it also restricts the admin to **fill all fields of data** and if **unintentionally** the admin left a **field empty** it informs the admin that all fields not filled. It also **restricts** the Admin to fill **valid data,** as in **publishing year** of an item it restricts the **Admin** to fill it with a **Valid Year** like **2010.**

**In Editing item section**, it is required when the admin wants to **Edit the specs of an item** it restricts the Admin to give **particular id** of that item to ensures **editing of right item** and avoid **data loss or overwriting** of previous data of another item and if the id of this item **does not exist** it simply **informs the Admin** and it also follow same **validation trends** of **Adding section**.

**In Deleting item section**, it is require when the Admin wants to **delete an item,** it restricts the Admin to give **particular id** of that item to ensure **Deleting of right item** and avoid **data loss** and if id of the item **does not exist** it simply informs the Admin.

**In Overdue Items Report Section,** it gives a **complete report** to the **Admin**, of **late items** which isn’t **returned yet** and also gives the **subscriber id** of the User/Subscriber who **borrowed** **this item** and also gives the **borrowed items id** and tells the **late** **return fine** of the User/Subscriber.

**In Subscriber’s Section**, We require two Options a **Login option** for the **previous Subscribers** and a **register option** to become a **new subscriber.**

**In Subscriber’s Register Section,** we required an **interface** which facilitates the User to **register** as a new Subscriber. The user simply enter his/her name, choose a **password** for her/himself which is also the **User’s Subscriber Id** which assist him/her to **login** as a Subscriber. Enter his\her **Address, Phone Number and Email** for contact purposes. We also assured that the **Password** enter by the User should be **unique and never exist** before otherwise it should **inform** the user and compelled to enter a different Password.

**In Subscriber’s Login Section**, we required a **password protected Section** for the **previous Subscribers** which allows a **particular subscriber** to **login** to the **Subscriber section** and give access to the Subscriber’s options through their **particular subscriber Id** to ensure **Security**. We also supposed to provide an option of **Reset Password** to allow the User/Subscriber to reset its Subscriber’s Id through its Phone Number in case he/she forget his/her password. This Section contain **three options** Borrow an item**,** Return an item, and View available items**.**

**In Borrow an Item Section,** it is required the Subscriber can get the **desired item** through this **item’s particular id** to ensures giving of **right item** and if the **item’s** **id** does not exist or the item is **not available** at that instance it simply informs the Subscriber and if the numbers of copies of the item become ‘0’ it set its **status to ‘not available’** and **denied** to give that item.

**In Return an Item Section**, it is required the Subscriber can **return** the **borrowed item** to its **particular Id** to ensure returning of **right item** and if the **User/Subscriber** accidentally enter **wrong Id** it informs the **User/Subscriber** and if the **number of copies** of this item is **zero** it increment a **one** in it and change its **status** from **“not available”** to **“Available or on the shelf”** and also tell the Subscriber the amount of fine in case of late return if the Subscriber is a **Regular** member then he/she has **30 days** to return an item and if Subscriber is a **Golden** member then he/she has **90 days** to return an item.

**In View Available Items Section,** it is required the Subscriber can view a **list of all available items**. The Name, Id and Author Name of item should be displayed in a **proper format** to facilitate **User/Subscriber** and to assist User/Subscriber to select the item he/she want to **borrow** through this **list** of available items.

It is also required to make a **mechanism** to keep the record of items, register Subscribers, Borrowed items, Returned items and fine and also use this data each and every we use this product and make it assured no data loss occur.