Automated Library Kiosk System

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Dugan Dobbs

Jeremy Luna

Jonathon Shaak

Jisung Chung

**Problem Analysis and Requirement Specification**

A library offers items such as books, movies, periodicals, etc. to be borrowed by patrons who use the library. However, it can be quite tedious for the patron to have to search for items on their own, wait to ask an employee of the library to ask where something is, or wait to checkout. To alleviate this issue, our team is developing a library kiosk for patrons to quickly search for what they need.

The library currently uses employees to handle all transactions. Clients currently check out books, return books, find out where the items they want to check out are located, and the details of those items through the librarian or librarian’s assistant. The purpose of this kiosk is to alleviate some of the library traffic by aiding patrons in finding what items they need, checking out items, returning items, viewing all or some of the items in the library, and viewing the details of items.

Users of this kiosk should be only the patrons that come to the library. With this kiosk, patrons are able to feasibly and quickly check in and check out the items they want to borrow or return. The kiosk will be secure as the users will not be able to tamper with the library’s inventory. The only way they will be able to check in or check out an item is by scanning the barcode located on the item.

Requirements Analysis:

1. The only user is a patron.
2. Items include books, movies, periodicals, audio, and reference materials.
3. Reference materials cannot be checked out of the library.
4. The kiosk should implement a scanner that reads bar codes.
5. The user can only check in and check out items (not reference materials) using the scanner on the kiosk.
6. Once an item is checked out, a message should be displayed to the user saying the item is checked out.
7. The user should be able to search for specific items.
8. The user should have the option to view all items available in the library.
9. The user should be able to filter items by category.
10. The item name, when listed in inventory, should be linked to its details and a map showing its location.
11. The user must view the library’s policies when the item is checked out
12. A user may only have up to 3 items checked out at one time.