Team Alexandria

Deliverable 2 - Requirements Request Document and Use Cases

IS436 - Structured Systems Analysis and Design

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Team Members

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Requirement	Category	Definition
Database Querying software	Process Oriented	User should be able to query the database to find the desired media location and availability.
Connected Network of Libraries	Business Requirement	The Library system needs to be common for all associated libraries. Allows interlibrary loaning of media.
Kiosks and POS system	User Oriented	Kiosk will allow users to access all online hosted media. It will also act as primary point of access for users to the system
Web Hosting Space	Process Oriented	Enable all library media to be hosted online. Online access provides users with an external form of access to media.
Rental Information	Information Oriented	System must store and maintain all currently rented media and provide users with alerts for when it is due back.
Roles and Access control	Security	Access to system will be restricted using specific roles such as administrator and employees.
Auto Charge	Operational	The system should auto charge users for overdue media and notify user when it takes place.

Interview Information

Format:

- Name of interviewer, name and position of interviewee, date/time of interview
- Questions for Product Owner/Employee:
    1. Who will the users be for this system?
    2. How will you use this system?
    3. What is the most important feature the system needs to perform?
    4. Are there any specific needs to this feature?
    5. What inputs and results will need to be displayed? And to who?
    6. Who will be the primary users of this system?
    7. Where will the users physically use the system?
    8. When will we be ready to start?
    9. How scalable would you like this system to be?
    10. What is the goal of establishing this system?

- Owner Interview Summary

  Interviewer -Alex, Interviewee – Jason (Owner), 3/9/18
    1. Library customers and any potential customers that want an online resource without coming in to the physical location.
    2. Improve the general library operations (i.e. inventory, searching, transactions) and extend the market to the online community.
    3. The most important feature should be the interlibrary online access.
    4. Users should be able to access online resources the library offers and handle the transactions associated with them.
    5. Rental information, overdue books, costs, inventory information and return dates should be displayed to customers and employees.
    6. The primary users will be the employees and customers.
    7. The employees would use the internal systems in the POS areas (counters) and customers may access the online system from their personal computers or locations layout within the library.
    8. As soon as possible to get at least a prototype system started and implemented.
    9. We would like the system to connect between multiple libraries, so scalability should be open and easy.
    10. The goal is to make library operations more efficient and to raise revenues by extending services to the online community.

- Questions for Development Team:
    1. What resources will you need?
    2. Are there any specific requirements need for designing the system?
    3. What is the estimated actual cost for system?

4. What is the estimated time needed for development?
5. How soon will the first prototype system be ready for testing?
6. Are there any constraints to the system?

- Development Team Interview Summary
  Interviewer: Alex, Interviewee: Amit (Analyst, Developer), 3/9/18
  1. Several different hardware and software, a few more additions to the development team, network engineers, blueprints, and regular meetings.
  2. Need to meet with interconnecting libraries.
  3. Roughly estimated cost would be around $800,000.
  4. The total time to have the completed system would be around 2 years, accounting for any issues that may arise.
  5. For the first iteration of the system, around a year. The first iteration would most likely not have much interlibrary connectivity.
  6. The current systems that the other libraries being interconnected may make it difficult to smoothly connect the libraries. Also, integrating the system may be a challenging.

  Interviewer: Alex, Interviewee: Mehak (Analyst), 3/9/18
  1. Hardware and software would be the main requirements. Potential additions to the development team and network engineers for interlibrary connectivity.
  2. Network needs to be efficiently designed for optimal connections.
  3. Rough numbers came out to around $800,000 but could be more or less depending on the networks complexity.
  4. Estimating around 2+ years depending on any issues with interconnectivity and integration.
  5. First prototype system should be within the end of this year. Most likely with very minimal interconnectivity but for the general system itself.
  6. The networks established in libraries with their own systems may be difficult to integrate to.

- Observations of current system: Current system in use is a simple and traditional filing system, hand logging the rentals and data into a card file, inventory is also done by hand, needs several employees to handle everything and transactions are a simple POS system. The system is very dated and requires majority of operations by manual labor. Employee positions: cashier, inventory, membership logging. There is also no online services, i.e. online rentals, membership renewals, online resource access, online purchasing and interlibrary connectivity.

- Questionnaire:
    1. Need for new library management system? (Yes/No)
    2. Need for new revenue outlets for library? (Yes/No)
    3. Satisfaction level of current system. (1 2 3 4 5)
    4. Satisfaction with revenue of library. (1 2 3 4 5)
    5. Enthusiasm for new system. (1 2 3 4 5)

USE CASES

Use Case:	Generating Billing Reports for Late Fees	**ID: V1**	**Importance Level: Medium**
Actor:	Billing Services Office		
Description:	When a customer does not return an item on time, a late fee can be assessed for every day after the due date.		
Trigger:	Daily late fee processing.		
Type:	**Real**		
Preconditions:	A customer has a book actively checked out that is past due (where due date is in the past)		
Normal Course:	**1. Script is run (daily/on days the library is open) after hours** **2. Script looks up all existing items that are currently checked out and have a due-date of before today.** **3. If the item has a due-date prior to today, a transaction is noted in the customers account for the late fee associated with that item type (ex. Books are $0.25/day, Videos are $0.75, Reference materials $2.00, etc.)** **4. Script can notify customer via text/email/etc. that their item is past-due and that they will not be able to check out new items until their fees are paid and past-due items are returned.**	**Information for Steps:** **List of items checked out**	
Postconditions:	**Billing Services office has a record of late fees that have been issued to that customer for the day and for which items.**		

Summary

Inputs	**Source**	**Outputs**	**Destination**
List of items currently checked out and to whom they are checked out to	Library Database	List of amounts to fine users and for what items	Transactions reported to Billing Services

Use Case:	Checking out an item to a Customer	**ID: V2**	**Importance Level: High**
Actor:	Customer		
Description:	When a customer wishes to check out an item, the system must ensure they have a valid credential and not have an unpaid balance on their account.		
Trigger:	Customer attempts to check out item at counter/kiosk.		
Type:	**Real**		
Preconditions:	A customer has an item (or multiple) and their library card.		
Normal Course:	**1. Clerk/Customer scans Library Card into system.** **2. System does a lookup against school registration database to ensure Customer has an active registration with the library.** **3. System does a lookup against Billing Services database to ensure Customer does not have an outstanding balance on their account.** **3b. If they do, they are able to settle up a residual balance at the counter with a clerk.** **4. System prompts user to scan each item, recording that the item is being checked out with each scan.** **5. Clerk/Customer finishes transaction, System prints out receipt with each item and its due date.**	**Information for Steps:**	**Connection to appropriate databases. Library Card Barcode on each item**
Postconditions:	**Library database is updated with new quantities of each item and with whom each item is checked out to.**		

Summary

Inputs	**Source**	**Outputs**	**Destination**
Library Card Item IDs	Library Database Billing Service Database Membership Database	Valid checkouts of items	

Use Case:	Adding New Items to the Library	**ID: V3**	**Importance Level: High**
Actor:	Librarian		
Description:	When the library receives a donation or purchases a new item, it must be entered into the system.		

Trigger:	Librarian wants to add a new item		
Type:	**Real**		
Precon ditions:	Librarian has a new item in hand to enter		
Normal Course:	**1. Librarian scans the ISBN barcode on the item.** **2. System does a lookup against the Library of Congress Copyright database to find information on the item** **2b. If no information is found, the librarian is prompted to enter the information** **3. System prompts Librarian to review information** **4. A new record for the item is created in the database** **5. System prints out a library asset item barcode to have Librarian apply to item**	**Inform ation for Steps:**	**Connectio n to Library and Library of Congress Databases**
Postcon ditions:	**New item has been entered into the system and has a barcode on it for checking out**		

Summary

Inputs	**Source**	**Outputs**	**Destinatio n**
Item Barcode	Library Database LoC Database	Item has barcode applied to it and is saved in Library Database	

USE CASE DIAGRAM