



## **SOFE3650U Final Project: Iteration 1**

Group 21

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## ADD Process

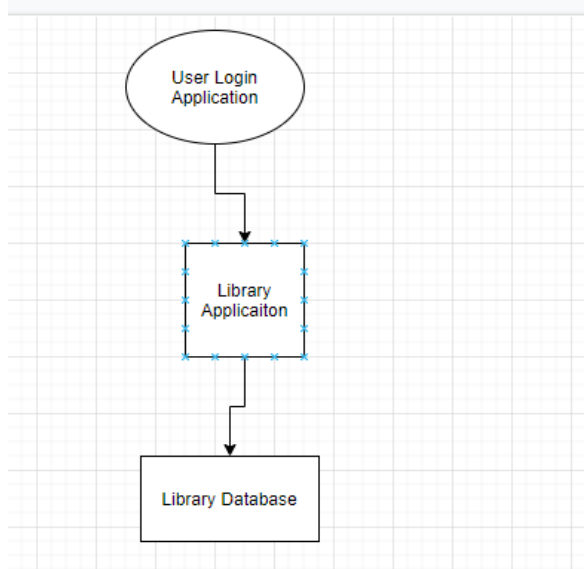
### Review Inputs:

<u>Category</u>	<u>Details</u>																		
<b>Design Purpose</b>	Yeezy Books online system purpose is to allow users to rent and read their favorite books from our online database																		
<b>Primary Functional Requirements</b>	<b>UC-1</b> Supports Core business <b>UC-3</b> Supports Core business <b>UC-5</b> Supports Core business <b>UC-6</b> Supports Core business																		
<b>Quality Attributes</b>	<table><tr><th>ID</th><th>Importance Customer</th><th>Implement Difficulty</th></tr><tr><td>QA-1</td><td>high</td><td>medium</td></tr><tr><td>QA-2</td><td>medium</td><td>medium</td></tr><tr><td>QA-3</td><td>high</td><td>high</td></tr><tr><td>QA-4</td><td>high</td><td>high</td></tr><tr><td>QA-5</td><td>high</td><td>low</td></tr></table>	ID	Importance Customer	Implement Difficulty	QA-1	high	medium	QA-2	medium	medium	QA-3	high	high	QA-4	high	high	QA-5	high	low
ID	Importance Customer	Implement Difficulty																	
QA-1	high	medium																	
QA-2	medium	medium																	
QA-3	high	high																	
QA-4	high	high																	
QA-5	high	low																	
<b>Constraints</b>	All Constraints are used in deciding our drivers																		
<b>Architectural Concerns</b>	All architectural concerns are included as drivers																		

## **Iteration 1: Establishing an Overall System Structure**

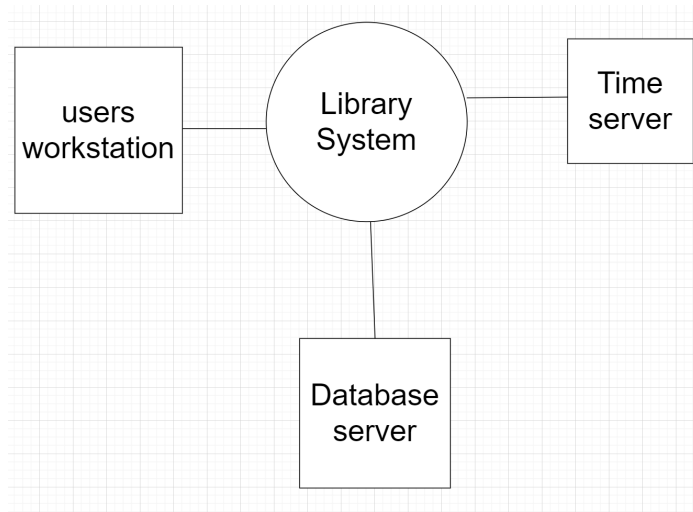
### **Step 2: Establish Iteration Goal by Selecting Drivers**

Since this our first iteration our goal for this iteration is to develop the overall structure of our library book rental system. We still are still considering using all of our QA when developing our overall system structure. After reviewing the inputs UC-1, UC-3 and UC-6 will be used as our primary drivers when establishing our architecture structure. We have limited our constraints to CON-1, CON-3 and CON-5 since they highlight the main issues in the use cases.



### **Step 3: Choose one or more elements to refine**

In the case of our model, we choose to refine the entire Library system. This refinement will be done through the decomposition of the system.



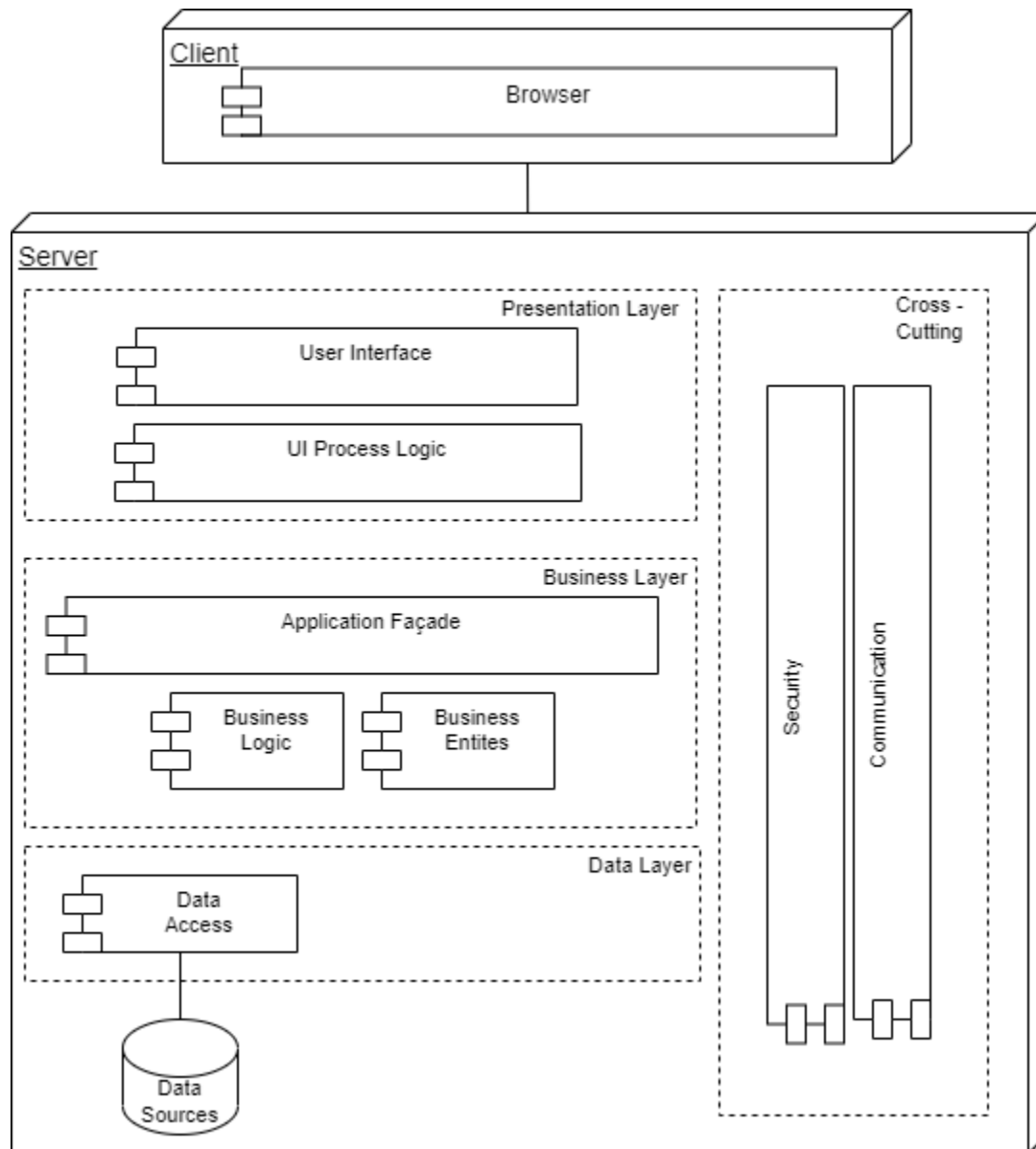
#### **Step 4: Choosing One or More Design Concepts That Satisfy the Selected Drivers**

Design Decisions and Location	Rationale
Structuring the client part of the system using Web Applications reference architecture	This architecture is geared toward developing applications that can be accessed through a web browser. Since our system requires a web browser CON-2, our system would need to be accessible to all users (QA-4, all use cases).
Creating the system using ASP.NET	This framework contains an MVC pattern where Model is the components that are being used in the system. Views are the pages that the user will navigate through to see data found from the database. Controller manipulates the database and sends information to View so it can be displayed for the user (QA-5). Provides a local database (CON-6) and can be deployed to run on a web browser (CON-2)
Deploy the application using the IIS express technology	The application can be accessed through the web browser which is used to launch the installer. By using this technology we are also able to facilitate

#### **Step 5: Instantiate Architectural Elements, Allocate Responsibilities, and Define Interfaces**

Design Decisions and Location	Rationale
Removing External data sources and replacing with a local data source in web application	Since ASP.NET contains a built in database where controllers and interact and manipulate the data so i can be displayed in View, an external database would not be required for

## Step 6: Sketch Views and Record Design Decisions



Component Name	Responsibility
Browser	The web browser that is running the client machine
User Interface	Taking in user interaction and inputs and providing information for the user.
UI process Logic	Manage the flow of interaction for the application use cases. Examples would include login validation, interacting with

	business logic, and retrieving data from business layer to UI components.
Application Facade	A simplified UI for the business components
Business Logic	Responsible for retrieving and processing data applications and enforcing business rules on data. Ex. customers can only borrow up to 5 books.
Business Entities	Entities from business domain and association with business logic
Data Access	Used to store and extract information from local data sources
Security	Handles user validation and authorization
Communication	Responsible for communication between layers

### **Step 7: Perform Analysis of Current Design and Review Iteration Goal and Achievement of Design Purpose**

Not Addressed	Partially Addressed	Completely Addressed	Design Decision Made During Iteration
	UC-1		Selected reference architecture establishes modules that will support functionality
	UC-3		Selected reference architecture establishes modules that will support functionality
	UC-6		Selected reference architecture establishes modules that will support functionality
	CON-1		Components in reference architecture support restriction
	CON-3		Components in reference architecture support restriction
	CON-5		Components in reference architecture support

			restriction
		CON-6	With modification to reference architecture, supports use of local database