

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
THE UNIVERSITY OF TEXAS AT ARLINGTON**

**PROJECT CHARTER
CSE 4316: SENIOR DESIGN I
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**THE BREW CREW
BEVERAGE MANAGEMENT**

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1 INTRODUCTION

Your introduction should describe your product concept in sufficient detail that the architectural design will be easy to follow. The introduction may include information used in the first sections of your SRS for this purpose. At a minimum, ensure that the product concept, scope and key requirements are described.

2 SYSTEM OVERVIEW

The diagram (Figure 1) below shows the basic architectural layer diagram of the Beverage Management app. The overall structure of our app can be described using the popular three-layer architecture which consists of presentation layer, application layer and data access layer. The presentation layer is the top-most layer of our system which allows user to interact with the system. Application layer acts as an interface between the presentation layer and data access layer. This layer supports all of the core functions of our application. The data access layer is the layer where all the data and information are stored or retrieved from the database. In other words, the presentation layer takes input from the user and pass it to the application layer. The application layer then process those commands and pass the information to the data access layer. The data access layer either store the information on the database or retrieve the requested information from the database and pass it back to the application layer, and eventually to the presentation layer where the result is displayed in a user understandable format.

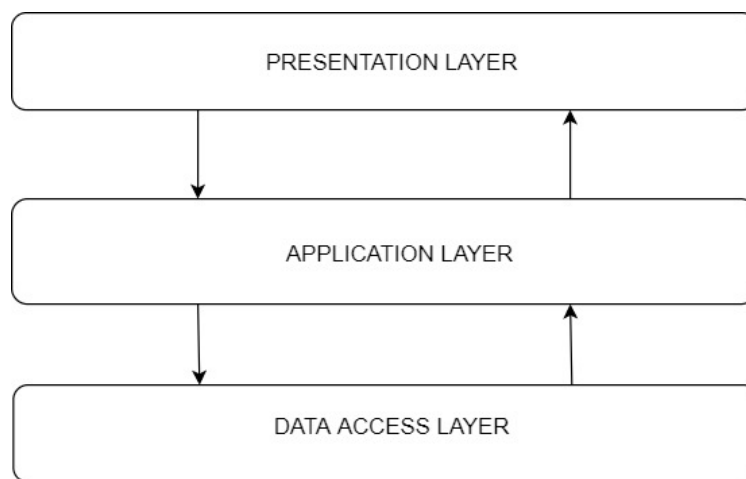


Figure 1: A simple architectural layer diagram

2.1 LAYER X DESCRIPTION

Each layer should be described separately in detail. Descriptions should include the features, functions, critical interfaces and interactions of the layer. The description should clearly define the services that the layer provides. Also include any conventions that your team will use in describing the structure: naming conventions for layers, subsystems, modules, and data flows; interface specifications; how layers and subsystems are defined; etc.

2.2 LAYER Y DESCRIPTION

Each layer should be described separately in detail. Descriptions should include the features, functions, critical interfaces and interactions of the layer. The description should clearly define the services that the layer provides. Also include any conventions that your team will use in describing the structure: naming conventions for layers, subsystems, modules, and data flows; interface specifications; how layers and subsystems are defined; etc.

2.3 LAYER Z DESCRIPTION

Each layer should be described separately in detail. Descriptions should include the features, functions, critical interfaces and interactions of the layer. The description should clearly define the services that the layer provides. Also include any conventions that your team will use in describing the structure: naming

conventions for layers, subsystems, modules, and data flows; interface specifications; how layers and subsystems are defined; etc.

3 SUBSYSTEM DEFINITIONS & DATA FLOW

This section breaks down our layer abstraction to another level of detail. Altogether, our system is divided into 3 different layers, Presentation Layer, Application Layer, Data Access Layer. Each of these layers are further divided into multiple subsystems. The Presentation Layer has Request, XML and Response. The Application Layer is divided into Java, Database Connection and Data Access Query whereas the Data Access Layer consists of Firebase, SQLite and Global Barcode Inventory. When an user opens the app, they will see the presentation layer consisting of text, buttons, forms, etc made using XML. When user makes some request like checking whether "India pale ale" is present in the inventory, this layer communicates with the application layer which formats a query and passes it to the data access layer. The data access layer then runs this query and returns the results (list of all beverage matching that style) to the application layer which then converts these results into appropriate format so that it can be displayed in the presentation layer.

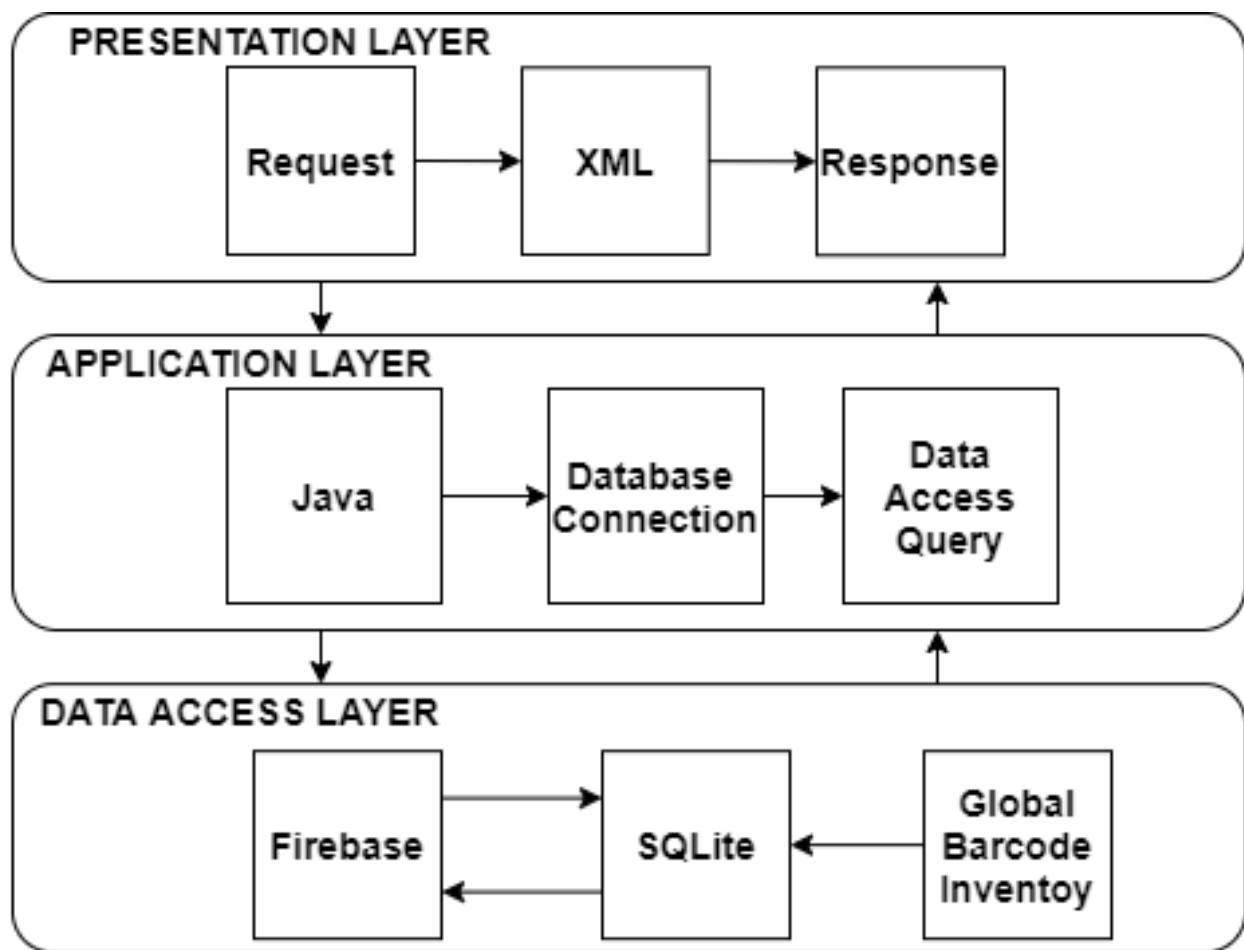


Figure 2: A simple data flow diagram

4 X LAYER SUBSYSTEMS

In this section, the layer is described in some detail in terms of its specific subsystems. Describe each of the layers and its subsystems in a separate chapter/major subsection of this document. The content of each subsystem description should be similar. Include in this section any special considerations and/or trade-offs considered for the approach you have chosen.

4.1 SUBSYSTEM 1

This section should be a general description of a particular subsystem for the given layer. For most subsystems, an extract of the architectural block diagram with data flows is useful. This should consist of the subsystem being described and those subsystems with which it communicates.

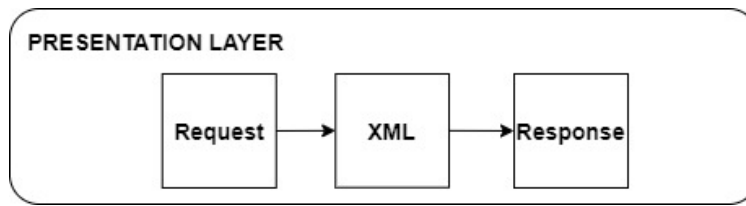


Figure 3: Example subsystem description diagram

4.1.1 ASSUMPTIONS

Any assumptions made in the definition of the subsystem should be listed and described. Pay particular attention to assumptions concerning interfaces and interactions with other layers.

4.1.2 RESPONSIBILITIES

Each of the responsibilities/features/functions/services of the subsystem as identified in the architectural summary must be expanded to more detailed responsibilities. These responsibilities form the basis for the identification of the finer-grained responsibilities of the layer's internal subsystems. Clearly describe what each subsystem does.

4.1.3 SUBSYSTEM INTERFACES

Each of the inputs and outputs for the subsystem are defined here. Create a table with an entry for each labelled interface that connects to this subsystem. For each entry, describe any incoming and outgoing data elements will pass through this interface.

Table 2: Subsystem interfaces

ID	Description	Inputs	Outputs
#xx input 2	Description of the interface/bus 3cmoutput 1	3cminput 1	
#xx	Description of the interface/bus	3cmN/A	3cmoutput 1

4.2 SUBSYSTEM 2

Repeat for each subsystem

4.3 SUBSYSTEM 3

Repeat for each subsystem

5 Y LAYER SUBSYSTEMS

In this section, the layer is described in some detail in terms of its specific subsystems. Describe each of the layers and its subsystems in a separate chapter/major subsection of this document. The content of each subsystem description should be similar. Include in this section any special considerations and/or trade-offs considered for the approach you have chosen.

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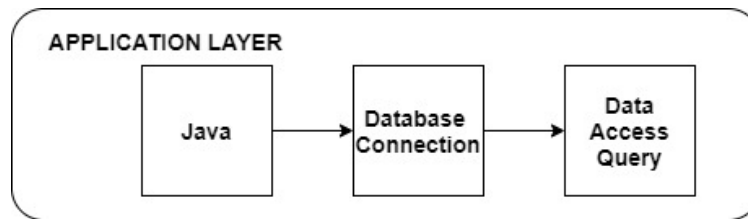


Figure 4: Example subsystem description diagram

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5.2 SUBSYSTEM 2

Repeat for each subsystem

5.3 SUBSYSTEM 3

Repeat for each subsystem

6 Z LAYER SUBSYSTEMS

In this section, the layer is described in some detail in terms of its specific subsystems. Describe each of the layers and its subsystems in a separate chapter/major subsection of this document. The content of each subsystem description should be similar. Include in this section any special considerations and/or trade-offs considered for the approach you have chosen.

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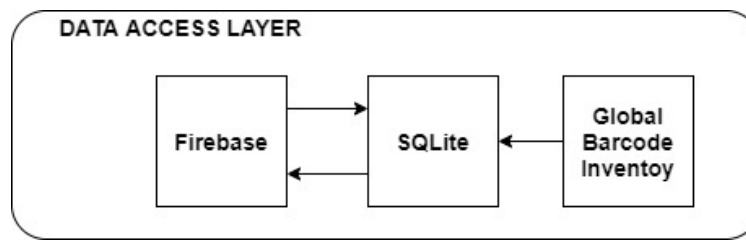


Figure 5: Example subsystem description diagram

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Any assumptions made in the definition of the subsystem should be listed and described. Pay particular attention to assumptions concerning interfaces and interactions with other layers.

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#xx	Description of the interface/bus	3cmN/A	3cmoutput 1

6.2 SUBSYSTEM 2

Repeat for each subsystem

6.3 SUBSYSTEM 3

Repeat for each subsystem

REFERENCES