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

PROJECT CHARTER
CSE 4316: SENIOR DESIGN I
SUMMER 2020

THE BREW CREW
BEVERAGE MANAGEMENT

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REVISION HISTORY

Revision	Date	Author(s)	Description
0.1	08.10.2020	BP	document creation
0.2	08.11.2020	BP	Added architectural layer diagram and section 2
0.3	08.11.2020	LC	Section 1 added

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1 INTRODUCTION

Beverage Management is an Android OS based application designed to manage the beverages in the household environment with significantly large collection in multiple setups. The product will virtually manage the collection allowing the user to store the beverages in different locations with customized racks.

Main intended purpose including keeping track of name, storage location, brewery, style, volume, manufactured date, best before date, and some other functionality including search and sort the beverage according to the date, style, etc.

Additional product concept includes the barcode scanning capability, which ensure the initial setup of the inventory, and saving it the local data-set,a friendly user interface to keep it sleek and notification system to notify the user about certain important information.

Conclusively, the initial application release will on Android OS, however the team will also be working on iOS and web platform and will be released in future releases.

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.
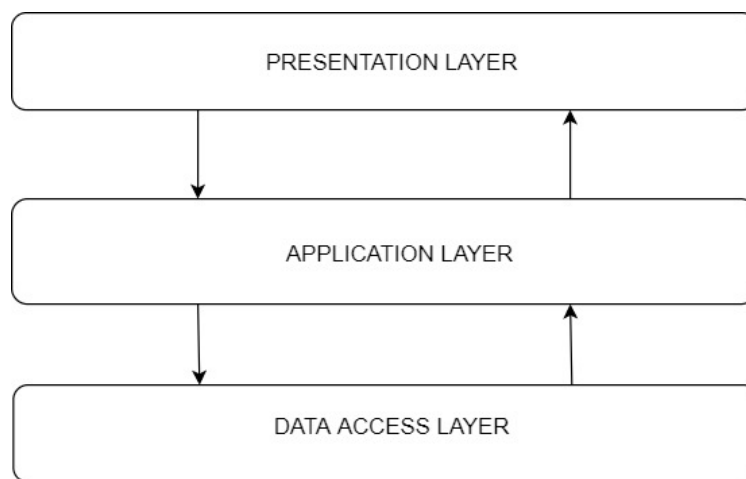
Figure 1: A simple architectural layer diagram

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.

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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 your layer abstraction to another level of detail. Here you grapically represent the logical subsytems that compose each layer and show the interactions/interfaces between those subsystems. A subsystem can be thought of as a programming unit that implements one of the major functions of the layer. It, therefore, has data elements that serve as source/sinks for other subsystems. The logical data elements that flow between subsystems need to be explicitly defined at this point, beginning with a data flow-like diagram based on the block diagram. logical data elements that flow between subsystems need to be explicitly defined at this point, beginning with a data flow-like diagram based on the block diagram.
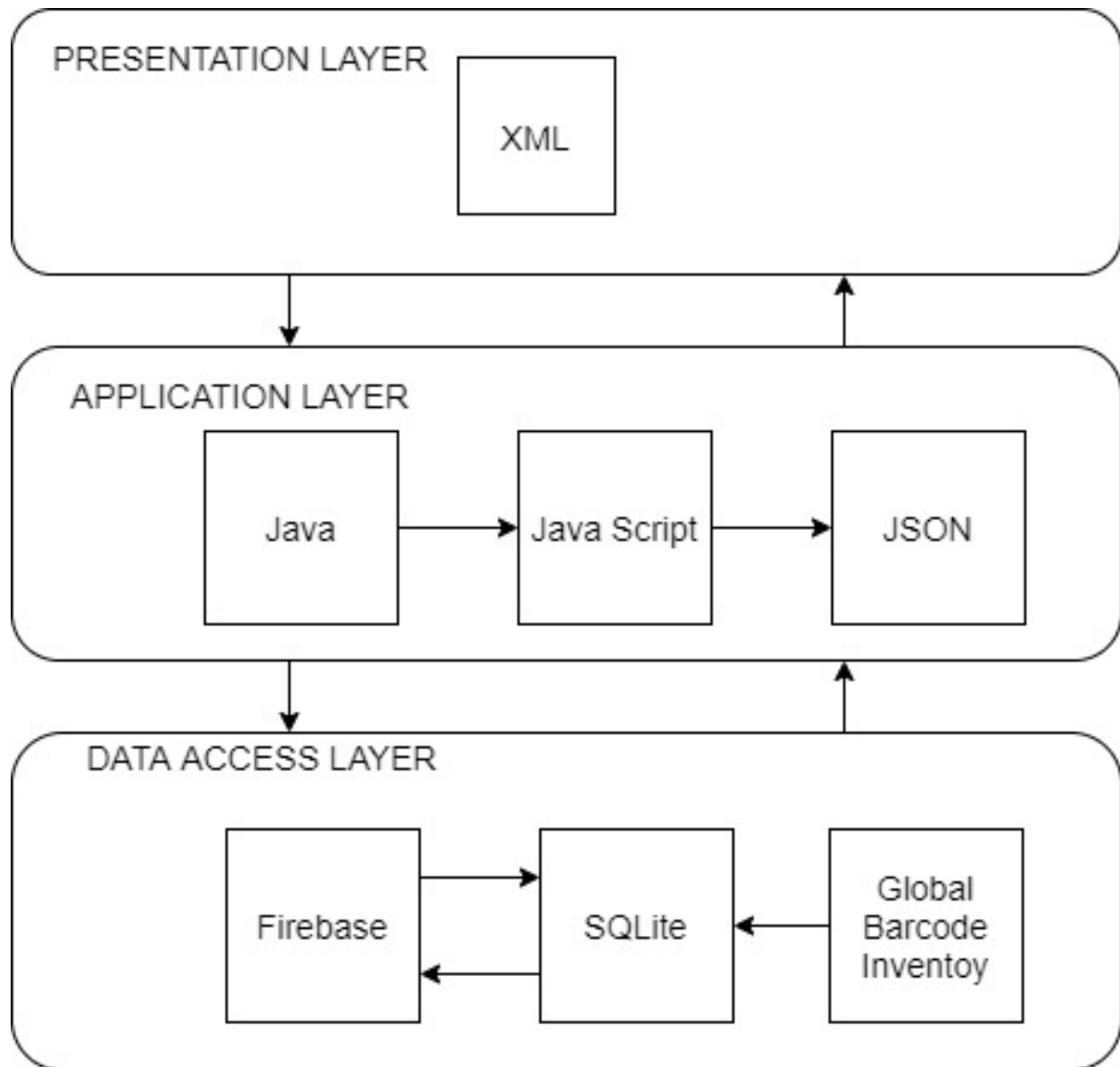
Figure 2: A simple data flow diagram

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.
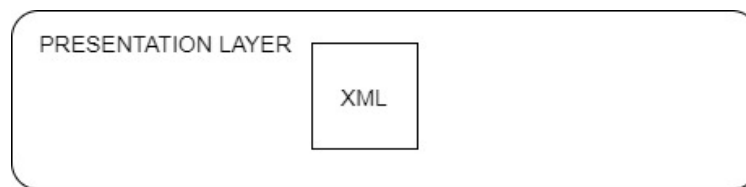

Figure 3: Example subsystem description diagram

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

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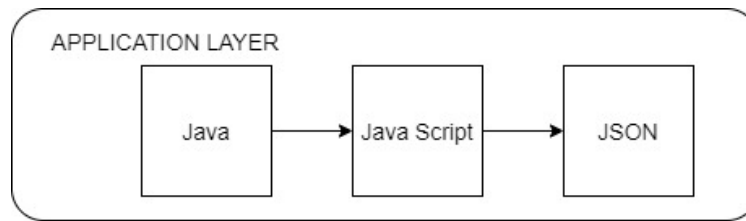

Figure 4: Example subsystem description diagram

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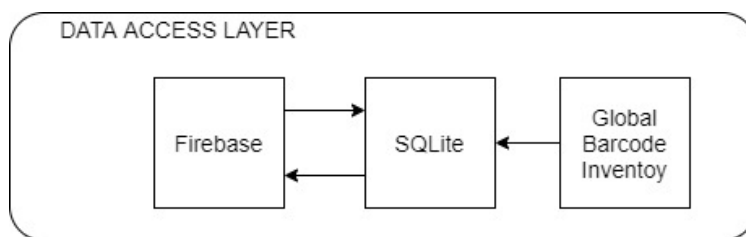

Figure 5: Example subsystem description diagram

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