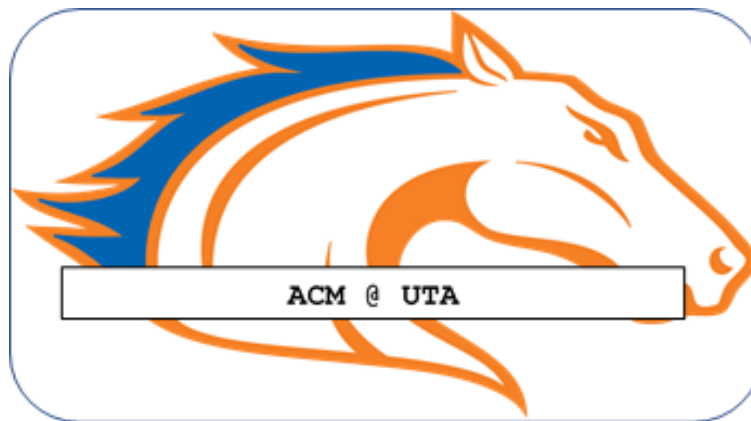


**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
THE UNIVERSITY OF TEXAS AT ARLINGTON**

**ARCHITECTURAL DESIGN SPECIFICATION
CSE 4316: SENIOR DESIGN I
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**TEAM 5
ACM UTA WEBSITE**

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REVISION HISTORY

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1 INTRODUCTION

The purpose of this project is to create an independent website for UTA's ACM Chapter. This website will provide all things ACM Organization at UTA. The following are the basic services that the website should provide: Two types of user groups, everyday users and users who have an account on the website. Everyday users get the very basic view of the website like event notices and posted pictures. There have to be three types of account holders. Paid account holders, unpaid account holders and officer accounts. Users who create an account on the website are given the option to become paid members. If they do not want to be paid members, then they have access to the same amount of information everyday users have plus they get notified of events that the organization sponsors. They also have the option to unsubscribe from the mailing list and/or delete their account. If the newly created account holders choose to be paid members, they will be directed at ways in which they can pay. After their payment is processed, their status is switched to paid members. They get the same amount of information and privileges as unpaid members plus notifications for events that are specially for paid members and notifications about their membership expiration. Officer accounts are the admin accounts. They control the information posted on the website. They (depending on officer position) can see the list of members and control membership options. They can create content related to all ACM chapter events. There will also be a contact us page for all users so they can get in touch with the chapter officers.

2 SYSTEM OVERVIEW

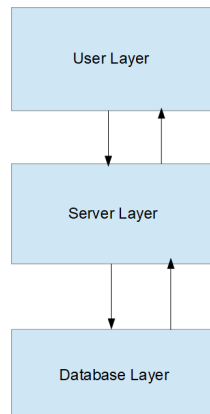


Figure 1: A simple architectural layer diagram

2.1 USER LAYER

The user layer is the user interface of the web application. It will take input either in terms of user data or navigation choices to be sent to the other two layers for processing. It will then display the outputs sent to it by the other layers in response.

2.2 SERVER LAYER

The server layer coordinates the data-flow between the user layer and the database layer. It transports the data gathered from the user layer to the database layer and transports the response for that data from the database layer to the user layer. It also provides navigation services by conveying information the same as data.

2.3 DATABASE LAYER

Database layer contains the following types of data: 1. User Info - this data can only be accessed on demand by an authorized webmaster with privileges. It can also be used when users are logging into and out of the system or when they are accessing their profile. 2. Info about events - This information can be created, stored and accessed by an officer of the organization whose privilege has been established. 3. Navigational responses to the user interface.

3 SUBSYSTEM DEFINITIONS & DATA FLOW

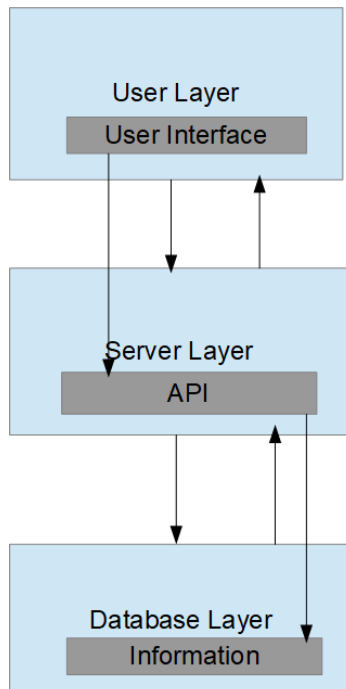


Figure 2: A simple data flow diagram

There are three layers in this system, each with its own subsystem. Each of the layers interact with the system that adjacent to it. The user interface of the user layer interacts with the API of the server layer which in turn interacts with the Database Layer where all the information about the website is stored.

4 USER LAYER SUBSYSTEMS

4.1 USER INTERFACE SUBSYSTEM

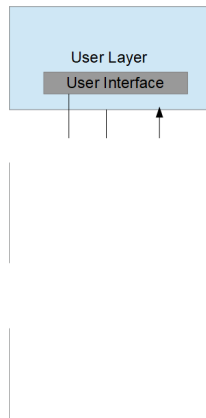


Figure 3: Example subsystem description diagram

4.1.1 ASSUMPTIONS

The user interface will be web based. It will collect input and display output on a screen.

4.1.2 RESPONSIBILITIES

The subsystem will collect data entered by the user - which can be personal information or application navigation choices, send them to the server layer to be processed. If the user credentials match the information they are seeking, the interface will display that information.

4.1.3 SUBSYSTEM INTERFACES

Table 2: Subsystem interfaces

ID	Description	Inputs	Outputs
#01	Input personal information	organization info user info	account home- page or error message(s)
#02	Click on a button to navigate the web-site	click	result or error message(s)

5 SERVER LAYER SUBSYSTEMS

5.1 API SUBSYSTEM

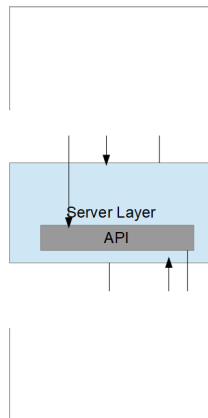


Figure 4: Example subsystem description diagram

5.1.1 ASSUMPTIONS

The API will communicate to other interfaces and direct the queries to their destinations.

5.1.2 RESPONSIBILITIES

Allow the user interface to access the database and vice versa. The subsystem will accept an input of encrypted data or navigation choice from the user interface and communicate accordingly to the database. It will also get information from the database and communicate that information to the user interface to be displayed.

5.1.3 SUBSYSTEM INTERFACES

Table 3: Subsystem interfaces

ID	Description	Inputs	Outputs
#01	Receives information and directs it to its destination	encrypted data	encrypted data
#02	Receives commands	requests	responses to requests or error message(s)

6 DATABASE LAYER SUBSYSTEMS

6.1 INFORMATION SUBSYSTEM

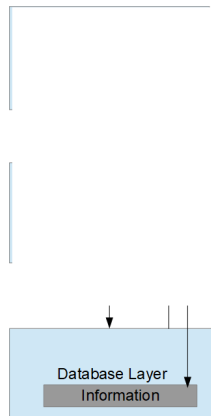


Figure 5: Example subsystem description diagram

6.1.1 ASSUMPTIONS

It will store data and send it when asked for.

6.1.2 RESPONSIBILITIES

The subsystem will store user information. If the information needs to be accessed, it will check the user's credentials and act accordingly. If the credentials match, it will send the information, if they do not match, it will direct it to the appropriate page or give out an error message.

6.1.3 SUBSYSTEM INTERFACES

Table 4: Subsystem interfaces

ID	Description	Inputs	Outputs
#01	Get data from API	organization info user info	stores data or sends data
#02	Get a navigation choice	navigation choice	corresponding in- formation