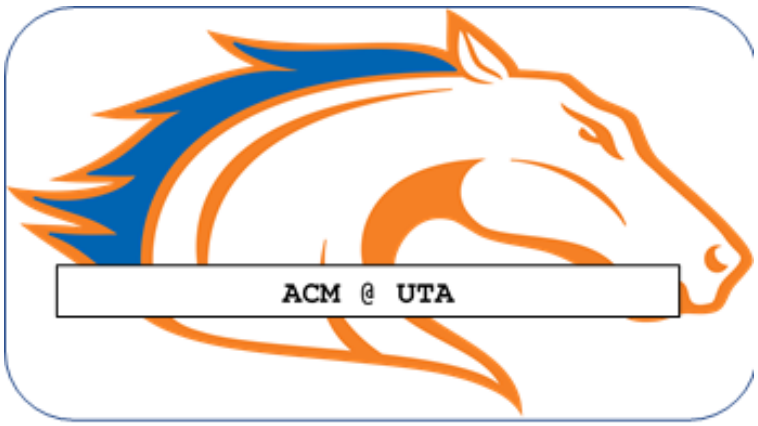
Department of Computer Science & Engineering
The University of Texas at Arlington

Detailed Design Specification
CSE 4317: Senior Design II
Summer 2020



Team 5
ACM's Web

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Revision History

Revision	Date	Author(s)	Description
0.1	07.01.2020	SK	document creation
0.2	07.06.2020	SK	complete draft
0.3	08.17.2020	SK	final release

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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

The user layer is the user interface of the web application. It will take input either in terms of user data or navigation choices and display output accordingly. The server layer coordinates the data-flow between the user layer and the database layer. It also provides existing navigation services. Database layer contains all the data which can only be accessed if the privilege to do so has been established.

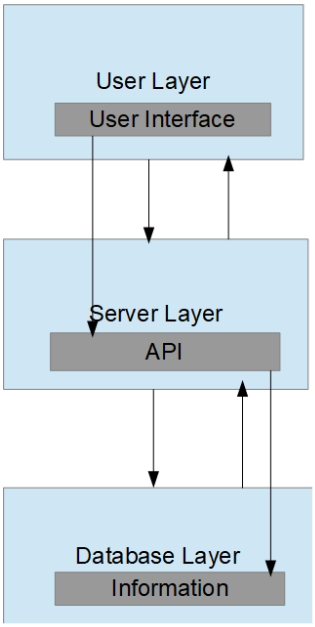

Figure 1: System architecture

3 User Layer Subsystems

3.1 Layer Hardware

No specific hardware layer.

3.2 Layer Operating System

This layer is supposed to function on most operating systems.

3.3 Layer Software Dependencies

Depends on the API in the next layer.

3.4 Subsystem User Interface

This layer is the user interface and meant to be a web service.

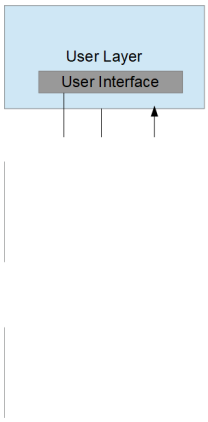

Figure 2: Example subsystem description diagram

3.4.1 Subsystem Hardware

No specific hardware.

3.4.2 Subsystem Operating System

This subsystem is supposed to function on most operating systems..

3.4.3 Subsystem Software Dependencies

Depends on the API in the next layer.

3.4.4 Subsystem Programming Languages

HTML and CSS and PHP

3.4.5 Subsystem Data Structures

There are no data structures for this layer.

3.4.6 Subsystem Data Processing

There will be no data processing in this layer.

4 Server Layer Subsystems

4.1 Layer Hardware

Mainly software-based.

4.2 Layer Operating System

Must function on most operating systems.

4.3 Layer Software Dependencies

Depends on the Database and the User Interface layer.

4.4 Subsystem API

The server layer coordinates the data-flow between the user layer and the database layer. It also provides existing navigation services.

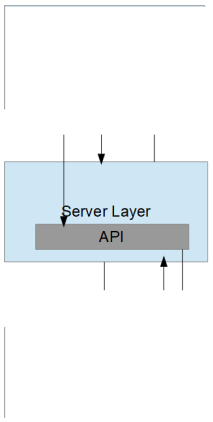

Figure 3: Example subsystem description diagram

4.4.1 Subsystem Hardware

Mainly software.

4.4.2 Subsystem Operating System

The subsystem is supposed function on all operating systems.

4.4.3 Subsystem Software Dependencies

Depends on the database in the next layer.

4.4.4 Subsystem Programming Languages

N/A

4.4.5 Subsystem Data Structures

N/A

4.4.6 Subsystem Data Processing

N/A

5 Database Layer Subsystems

5.1 Layer Hardware

Mostly software.

5.2 Layer Operating System

A description of any operating systems required by the layer.

5.3 Layer Software Dependencies

Depends on the two previous layers.

5.4 Subsystem 1

Database layer contains all the data which can only be accessed if the privilege to do so has been established.

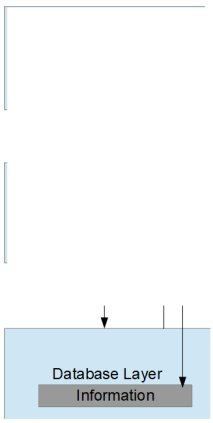

Figure 4: Example subsystem description diagram

5.4.1 Subsystem Hardware

Mostly software.

5.4.2 Subsystem Operating System

Supposed to function on all operating systems.

5.4.3 Subsystem Software Dependencies

Depends on input from the user interface that is processed by the server layer.

5.4.4 Subsystem Programming Languages

SQL

5.4.5 Subsystem Data Structures

The data will mostly be structured in tables in the database.

5.4.6 Subsystem Data Processing

The data will be processed using queries from an SQL.

6 Appendix A

No documents as of now.