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

SYSTEM REQUIREMENTS SPECIFICATION
CSE 4316: SENIOR DESIGN I
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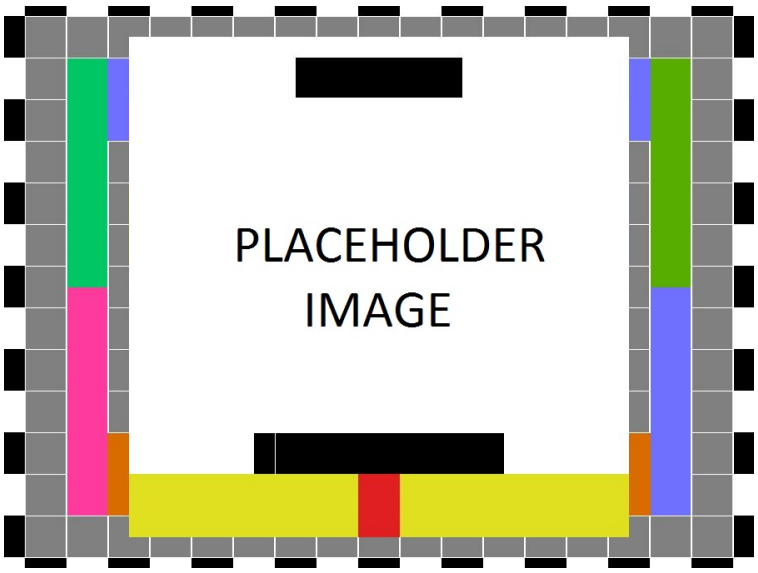

MAV BLAZES
UTA ACM WEBSITE

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Revision History

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CONTENTS

1 Product Concept **7**
- 1.1 Purpose and Use . . . 7
- 1.2 Intended Audience . . . 7

2 Product Description **8**
- 2.1 Features & Functions . . . 8
- 2.2 External Inputs & Outputs . . . 8
- 2.3 Product Interfaces . . . 8

3 Customer Requirements **9**
- 3.1 User Accounts . . . 9
  - 3.1.1 Description . . . 9
  - 3.1.2 Source . . . 9
  - 3.1.3 Constraints . . . 9
  - 3.1.4 Standards . . . 9
  - 3.1.5 Priority . . . 9
- 3.2 Resume portal . . . 9
  - 3.2.1 Description . . . 9
  - 3.2.2 Source . . . 9
  - 3.2.3 Constraints . . . 9
  - 3.2.4 Standards . . . 9
  - 3.2.5 Priority . . . 9
- 3.3 Blog . . . 9
  - 3.3.1 Description . . . 9
  - 3.3.2 Source . . . 10
  - 3.3.3 Constraints . . . 10
  - 3.3.4 Standards . . . 10
  - 3.3.5 Priority . . . 10
- 3.4 User login . . . 10
  - 3.4.1 Description . . . 10
  - 3.4.2 Source . . . 10
  - 3.4.3 Constraints . . . 10
  - 3.4.4 Standards . . . 10
  - 3.4.5 Priority . . . 10
- 3.5 User registration . . . 10
  - 3.5.1 Description . . . 10
  - 3.5.2 Source . . . 10
  - 3.5.3 Constraints . . . 10
  - 3.5.4 Standards . . . 10
  - 3.5.5 Priority . . . 10
- 3.6 Events Page . . . 11
  - 3.6.1 Description . . . 11
  - 3.6.2 Source . . . 11
  - 3.6.3 Constraints . . . 11
  - 3.6.4 Standards . . . 11
  - 3.6.5 Priority . . . 11

3.7 Course information . . . 11
3.7.1 Description . . . 11
3.7.2 Source . . . 11
3.7.3 Constraints . . . 11
3.7.4 Standards . . . 11
3.7.5 Priority . . . 11
3.8 Course materials . . . 11
3.8.1 Description . . . 11
3.8.2 Source . . . 11
3.8.3 Constraints . . . 11
3.8.4 Standards . . . 12
3.8.5 Priority . . . 12
3.9 Interaction feature in blog . . . 12
3.9.1 Description . . . 12
3.9.2 Constraints . . . 12
3.9.3 Source . . . 12
3.9.4 Standards . . . 12
3.9.5 Priority . . . 12

4 Packaging Requirements **13**
4.1 Downloads for website resources . . . 13
4.1.1 Description . . . 13
4.1.2 Source . . . 13
4.1.3 Constraints . . . 13
4.1.4 Standards . . . 13
4.1.5 Priority . . . 13

5 Performance Requirements **14**
5.1 Fast performance . . . 14
5.1.1 Description . . . 14
5.1.2 Source . . . 14
5.1.3 Constraints . . . 14
5.1.4 Standards . . . 14
5.1.5 Priority . . . 14

6 Safety Requirements **15**
6.1 Laboratory equipment lockout/tagout (LOTO) procedures . . . 15
6.1.1 Description . . . 15
6.1.2 Source . . . 15
6.1.3 Constraints . . . 15
6.1.4 Standards . . . 15
6.1.5 Priority . . . 15

7 Maintenance & Support Requirements **16**
7.1 Continual Bug Fixes . . . 16
7.1.1 Description . . . 16
7.1.2 Source . . . 16
7.1.3 Constraints . . . 16

7.1.4 Standards . . . 16
7.1.5 Priority . . . 16
7.2 Feature Updates . . . 16
7.2.1 Description . . . 16
7.2.2 Source . . . 16
7.2.3 Constraints . . . 16
7.2.4 Standards . . . 16
7.2.5 Priority . . . 16
7.3 Security Maintenance . . . 17
7.3.1 Description . . . 17
7.3.2 Source . . . 17
7.3.3 Constraints . . . 17
7.3.4 Standards . . . 17
7.3.5 Priority . . . 17
7.4 Administrator Access to Source Code and Documentation . . . 17
7.4.1 Description . . . 17
7.4.2 Source . . . 17
7.4.3 Constraints . . . 17
7.4.4 Standards . . . 17
7.4.5 Priority . . . 17

8 Other Requirements **18**
8.1 Auto Pay . . . 18
8.1.1 Description . . . 18
8.1.2 Source . . . 18
8.1.3 Constraints . . . 18
8.1.4 Standards . . . 18
8.1.5 Priority . . . 18

9 Future Items **19**
9.1 Online Payment . . . 19
9.1.1 Description . . . 19
9.1.2 Source . . . 19
9.1.3 Constraints . . . 19
9.1.4 Standards . . . 19
9.1.5 Priority . . . 19

List of Figures

1 X conceptual drawing 7

1 Product Concept

This section describes the purpose, use and intended user audience for the ACM website. The ACM website is the system that will act as a hub for all students at UTA. The members of UTA ACM chapter will have more privileges than nonpaying members. The users of ACM website will be able to view upcoming events, see current developments on ongoing projects, find resources in specific fields of study, and manage their memberships.

1.1 Purpose and Use

The ACM website should allow all users to register and log into the system. All students at UTA will have access to the website. However, paying members of the UTA ACM chapter will have privileged views on certain content which nonpaying members will not have. The paying members will be able to manage their membership and find study resources at ACM website. The members will, also, be able to look at upcoming events and sign up for email updates. All members will have the ability to upload their resumes to the website. The resumes can be sent to sponsors for projects, if required. The officers will be able to send a mass email to all the paying members regarding updates and announcements.

1.2 Intended Audience

The intended audience of this website is every student within the College of Engineering at UTA. Currently, this website is designed for a specific customer base. The product can be made available for small student groups with blog capabilities.

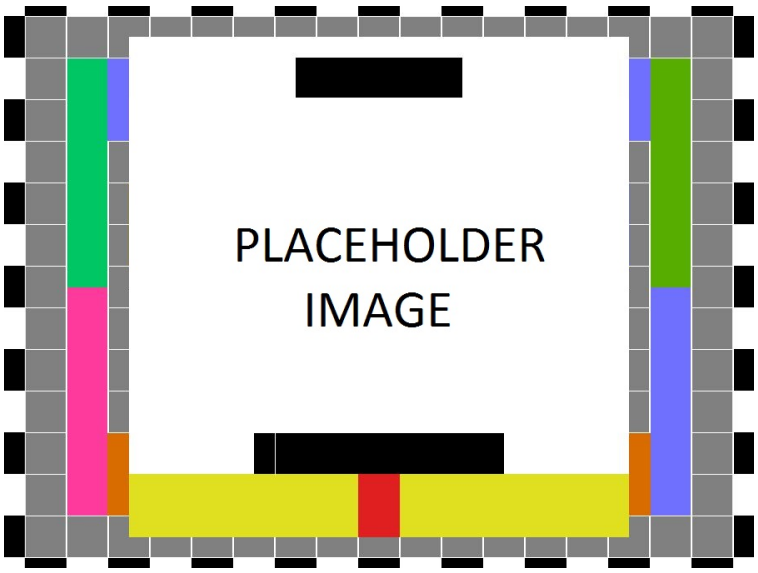

Figure 1: X conceptual drawing

2 Product Description

2.1 Features & Functions

The website will have a home page that will have about section, login button, register button and navigation bar. The navigation bar will have a news feed option, events section, my membership section, Resources section and contact us section. The news feed section will have customized view for different tier users, i.e. general members, paid members, officers. The users will have to register to use the website. The paid members will be able to view their membership status in my membership section.

2.2 External Inputs & Outputs

The website will receive inputs from users in various features. The login will require user to provide login credentials. The registration page will need user data input. The news feed section will provide the contents as news items which will have a headline and paragraph text. The events section will provide a calendar view with events as date and text. The resume portal will require user to upload a .pdf file.

2.3 Product Interfaces

The interface shall be similar to a normal interactive website. The users will use buttons, text fields, navigation bars to surf the website. The user will go to homepage after login and access various features from the navigation bar.

3 Customer Requirements

The requirements for the UTA ACM Website vary from the structure of the website to the type of features that the website has. The website must have different types of user account that allow each user access to different functions. The customer wants a blog like structure so that the website can post new anouncements.

3.1 User Accounts

3.1.1 Description

There are four types of user accounts that the customer wants the UTA ACM Website to have. The four types of accounts will be unpaid memberships, paid membership, officer, and advisor.

3.1.2 Source

Sponsor

3.1.3 Constraints

A constraint with the user accounts is how we are coding/creating the accounts to reflect once the web page is functional. The possibility that the views might be bugged. ex: What if a non paying member can see what a paid member or officer can see.

3.1.4 Standards

Standards that the website will need to have are privacy policies for user's account and personal information.

3.1.5 Priority

Critical

3.2 Resume portal

3.2.1 Description

The users shall be able to upload their resume in the system. The resume shall be stored and maintained by the system. If more than one resume uploaded, the system shall replace the existing resume with new resume.

3.2.2 Source

Sponsor

3.2.3 Constraints

None

3.2.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.2.5 Priority

High

3.3 Blog

3.3.1 Description

The ACM website shall have a blog feature. Announcements and messages shall be displayed in a blog format. The content of the blog shall be customized according to the type of user. Paying members shall have privileges to all the contents.

3.3.2 Source

Sponsor

3.3.3 Constraints

Being able to correctly incorporate a blog like structure that updates and displays the most recent posts.

3.3.4 Standards

National society of Professional Engineers - Ethics code of standards

3.3.5 Priority

High

3.4 User login

3.4.1 Description

The users shall be able to login using their credentials. Valid members shall be logged in the system according to the member account type. Non-members shall get an error message with understandable errors.

3.4.2 Source

Sponsor

3.4.3 Constraints

The website shall not be accessible with ACM.org account. The user must be registered as a member at ACM chapter at UTA.

3.4.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.4.5 Priority

High

3.5 User registration

3.5.1 Description

Users shall be able to create an account in the system by using register feature. The user account shall be stored in database as a non-paying member. The user can become a registered member after paying the required fees and requesting paying member access. If existing member tries to create account, the user shall get an error message with understandable error message.

3.5.2 Source

Sponsor

3.5.3 Constraints

None

3.5.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.5.5 Priority

High

3.6 Events Page

3.6.1 Description

The events page shall display the upcoming events in reverse chronological order. This feature shall be available to all the users.

3.6.2 Source

Sponsor

3.6.3 Constraints

None

3.6.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.6.5 Priority

High

3.7 Course information

3.7.1 Description

The course information page shall be available to all the users. This page shall display information on expectations, brief description of course and sample assignments of the courses offered at UTA.

3.7.2 Source

Sponsor

3.7.3 Constraints

The information on this page shall only be updated by authorized faculty and officers of ACM chapter at UTA. The assignment samples shall be provided at instructor's discretion.

3.7.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.7.5 Priority

High

3.8 Course materials

3.8.1 Description

The website shall have course materials section. This feature shall be available to paying members only. The course materials shall contain class notes, study materials, ebooks and review materials for students. These materials shall be provided by volunteer students. All the materials shall be verified by ACM before being available to members.

3.8.2 Source

Sponsor

3.8.3 Constraints

The volunteers shall be able to upload the contents, but will only be available to view after approval of ACM officers.

3.8.4 Standards

National Society of Professional Engineers - Ethics code of standards

3.8.5 Priority

High

3.9 Interaction feature in blog

3.9.1 Description

The website shall have interactive blog feature. The users shall be able to comment and react on the posts posted in the blog.

3.9.2 Constraints

None

3.9.3 Source

Sponsor

3.9.4 Standards

National Society of Professional Engineers- Ethics code of standards

3.9.5 Priority

Low

4 Packaging Requirements

The finished product should have no hardware components and would not need to be physically delivered to the customer. We are also not developing a product that would require separate installation for mobile or web users. The product should be fully accessed given a web browser and internet connection. For certain features of the website, such as lecture notes, uploaded resumes, and blogs, the user can download these files if they have the correct permissions. We would need a way to package these downloads for the user's ease.

4.1 Downloads for website resources

4.1.1 Description

If the user has the correct permissions, the user should be able to download resources from the website. For example, the user may want to download PowerPoint presentations or MP4s of a professor's class, PDFs of lecture notes or resumes, or blog posts. The download should be package and safely installed on the user's machine in a way that gets these resources.

4.1.2 Source

Sponsor

4.1.3 Constraints

The packaged download may only be in a compressed format such as a ZIP file.

4.1.4 Standards

None

4.1.5 Priority

High

5 Performance Requirements

Because the website will support access from any user, the website must have high performance with little lag or latency. This will contribute positively for the user's experience. Exceptions to this may occur if the user has a poor internet connection or is running an outdated browser that is not fully supported. There should be no lag when the user is switching between web pages, scrolling on blog posts, and posting their own blog posts or comments. If the performance is poor, the user may get annoyed and not use the website.

5.1 Fast performance

5.1.1 Description

The website should not have any poor performance on any of its features.

5.1.2 Source

Source

5.1.3 Constraints

This requirement may not apply when the user has a poor internet connection or is running an outdated browser.

5.1.4 Standards

None

5.1.5 Priority

High

6 Safety Requirements

Our team is not planning to work on this project inside UTA's computer laboratory. There are no dangerous hardware/electrical components or special tools to be used for this project. There are no safety requirements that we would need to comply with to work on this project. It is expected that we would work on this from home. If the team decides to meet in person, UTA's COVID-19 precautions will be followed.

6.1 Laboratory equipment lockout/tagout (LOTO) procedures

6.1.1 Description

Any fabrication equipment provided used in the development of the project shall be used in accordance with OSHA standard LOTO procedures. Locks and tags are installed on all equipment items that present use hazards, and ONLY the course instructor or designated teaching assistants may remove a lock. All locks will be immediately replaced once the equipment is no longer in use.

6.1.2 Source

CSE Senior Design laboratory policy

6.1.3 Constraints

Equipment usage, due to lock removal policies, will be limited to availability of the course instructor and designed teaching assistants.

6.1.4 Standards

Occupational Safety and Health Standards 1910.147 - The control of hazardous energy (lockout/tagout).

6.1.5 Priority

High

7 Maintenance & Support Requirements

Maintenance and support will be very important for this project, as it is for most websites. There will be more features to add and potential security issues. One specific user role is the administrator, who is the main source of maintenance and support. They are responsible for adding new ACM officers to the website, managing the database, and updating any bugs/features found. The source code and documentation will be provided to anyone in charge of maintaining the website. The website developers will, also, be in contact for maintenance and support because they will have adequate knowledge with the development of the website.

7.1 Continual Bug Fixes

7.1.1 Description

Any bugs found in the website should be reported and sent to the administrator, who is responsible for fixing, said, bugs. These bugs may include visual bugs in the website, problems with form submissions/database operations, and any other behavior that is not intended for how the website should perform.

7.1.2 Source

Team

7.1.3 Constraints

If the administrator is not able to fix the bugs, the website developers will be in contact to help.

7.1.4 Standards

None

7.1.5 Priority

Medium

7.2 Feature Updates

7.2.1 Description

A widely requested feature that would enhance the user's experience should be considered by the developers and implemented. With continual updates, the website will remain modern and with ease of use. An outdated website will lose its users.

7.2.2 Source

Team

7.2.3 Constraints

It is up to the developers to decide what new features to add.

7.2.4 Standards

None

7.2.5 Priority

Medium

7.3 Security Maintenance

7.3.1 Description

Security is one of the main components of websites today. A website without proper security will lose the trust of the users. This can lead to less people signing up for the website, which would negatively affect UTA's ACM chapter. It is, also, the moral responsibility for the developers and administrators to handle private user information in the most secure and ethical way possible. Any security issues should be fixed as soon as detected.

7.3.2 Source

Team

7.3.3 Constraints

None

7.3.4 Standards

None

7.3.5 Priority

High

7.4 Administrator Access to Source Code and Documentation

7.4.1 Description

The administrators of the website will have full access to the website's source code, documentation, and database. This will allow them to support the website's requirements to the fullest extent. If there are issues with the sources, the administrators should contact the website developers.

7.4.2 Source

Team

7.4.3 Constraints

None

7.4.4 Standards

None

7.4.5 Priority

Medium

8 Other Requirements

For the UTA ACM Chapter Website to be deemed complete, the implementation of the auto pay feature is required. This means that the user types and the online payment feature are complete and fully functional. With the addition of this feature, the paying members can have hassle-free experience payment experience.

8.1 Auto Pay

8.1.1 Description

Once the feature to pay memberships is added to the website, the developers can add the feature of enrolling in auto payment. This will reduce the hassle of users having to always go to the website to pay membership every month.

8.1.2 Source

Sponsor

8.1.3 Constraints

It is up to the developers to decide if they would like to add this feature or not.

8.1.4 Standards

None

8.1.5 Priority

Moderate

9 Future Items

The requirement that is listed as priority 5 (critical) is the user accounts. It is the one thing that the sponsor wants to be implemented before the project is finished.

9.1 Online Payment

9.1.1 Description

The customer wants for the website to be able to allow payment through the website. The website will be able to accept payment for the users subscription directly from the site.

9.1.2 Source

Sponsor

9.1.3 Constraints

Figuring out how to accept payments properly while keeping user's information safe. We do not know how to properly accept payments. If we will use a third party to accept payments.

9.1.4 Standards

None

9.1.5 Priority

low

REFERENCES