Software Requirements Specification

for

Webivent

(Web Application)

Version 1.0

Submitted by

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1. **Introduction**

   1.1. Purpose

   The purpose of the document is to create a detailed description on the various functional and non-functional requirements for the web application. This will enable the people involved understand and explain the features of the web application. In addition, the document presents the purpose of an online web application that manages webinar events online in which the users, especially students, and organizers can use to engage, promote, and participate to. The creation of such web application provides convenience and easiness towards the users to have access and exposure to such events online and provide them with an opportunity to participate to it. Not only that, but it will also enable organizers to promote their online events in a wider audience without the unrelated noise from posts seen in social media platforms. With this document, it will be easier and more convenient to determine and understand the features, functionalities, and requirements needed to develop the web application.

   1.2. Intended Audience

   The intended audience for this system is individuals/teams who are included in the planning and development process of the web application such as project managers, developers, and testers. In addition, the instructors of CMSC 128 lab along with the students who are under the course subject are also the intended audience for this document.

   1.3. Intended Use

   The intended use for this document is to guide and inform the people involved in the development phase of the web application of the features and requirements of the web application. On the other hand, the intended use for the web application is for users, who are students and those who are interested to participate to webinars and online events they're interested in, to find and participate on those events with convenience and ease. In addition, the intended use for the organizations is to promote and post their online events for it to reach a wider audience and increase their online engagement through the platform.

1.4. Scope

The system's goal and objective is to create a platform where users, especially students, will be able to find and participate to various online events and webinars, and where organizations will be able to promote and post such events to have a wider reach on their target audience and provide an easier way to promote and gain participants for it. Webinars have been an alternative measure to host events using the online platform since the pandemic happened to the country and the world. In line with this, there have been a great number of available webinars online that covers various topics and fields but aren't accessible for everyone to participate to since the user may not even know that a certain webinar they're interested in is happening.

This system will be able to let users and organizations actively engage with one another in an online platform in which both parties will be benefitting from each other such that users will be able to learn and expand their knowledge by participating through various online events and webinars whereas the organizations will be able to increase their reach and gain participants for their events.

The system is designed to let users have access to various online events and webinars for them to know and participate to, which allows them to learn something new despite holding physical events were halted during pandemic situation in the country. Similarly, the organizations needed to adapt and start hosting their events online to keep their organization active, in which the system will be able to help through promotions and engagement for their events.

1.5. Definitions and Acronyms

1.5.1. Definitions

Term	Definition
Gadget	A small mechanical or electronic device or tool that has access to internet connection
Online event	Or virtual events, are events done online using internet connection
Organization	Organized body of people with a particular purpose (i.e. student organizations, non-profit organizations, etc.)
Organizer	An individual who organizes an event; can be an individual or a part of an organization
Users	An individual who uses a gadget; organizers are included
Web application	A computer program that uses a web browser to perform a particular function
Webinar	A seminar/talk/workshop conducted online/over the internet and is conducted using a video conferencing software
Webivent	Brand name of the web application

The potential risks that could arise during development and usage of the web application are as follows:

1. Unauthorized users to access the dashboard of the web application.
   Risk Mitigation: Stronger authentication system to avoid unwanted access from users.
   Person(s) in-charge: Developers, admin
2. Elements used in the web application doesn't load properly.
   Risk Mitigation: Check the code in frontend and backend of the web application.
   Person(s) in-charge: Developers
3. Possible unwanted leakage of participant information in the registered webinar.
   Risk Mitigation: Strengthen database handling and authentication on organizers.
   Person(s) in-charge: Developers

1.5.2. Acronyms

Acronym	
CSS	Cascading Style Sheets
CSV	Comma Separated Values
HTML	Hypertext Markup Language
HTTPS	Hypertext Transfer Protocol Secure
JS	JavaScript
RAM	Random Access Memory
UI	User Interface

2. Overall Description

2.1. User Needs

The webinar web application will be used by users who could efficiently and easily search, register, and attend various webinars that are of their interests, while organizers will be promoting and posting their online events and webinars that are open to be participated by either a specific audience or the public.

2.2. Assumptions and Dependencies

It is assumed that the users are familiar with using the browser to access the web application. It is also assumed that they have basic knowledge on how to operate and navigate the web application through their gadget of choice (i.e. handling the mouse and keyboard when using a desktop or a laptop). In addition, since the web application needs internet connection for users to access it, it is assumed that they have access to it prior to going to our web application. The web application is dependent on the backend framework used, which is Django for this case, its corresponding database and authentication system, and the built web application reused from CMSC 126 submission.

3. System Features and Requirements

3.1. Functional Requirements

The general functional requirements for the web application are listed below this section. The detailed functional requirements are included in the system features of the web application.

3.1.1. The system must allow users to register and create their account through a form in the registration page of the web application.

3.1.2. The system must have an authentication and validation system for accounts.

3.1.3. The system must show success/error messages during authentication or validation process.

3.1.4. The system must allow users to log in using their created account in the web application.

3.1.5. The system must only show content that is specific to a certain type of user.

3.1.6. The system must allow users to edit their profile information and save the changes.

3.1.7. The system must show webinar posts in the user dashboard.

3.1.8. The system must allow organizers to create posts in the web application.

3.1.9. The system must allow organizers to edit the post if necessary and save the changes.

3.1.10. The system must allow users to log out in their respective dashboards.

3.2. External Interface Requirements

3.2.1. User Interface

The user interface of the web application is compatible to various browsers such as Mozilla, Edge, and the like in which will be used to have access on the web application. The pages that the user and the organizer can access are specific to the type of user they are for the web application. For instance, organizers will have access to 'create post' page and have access to pages regarding the registered participants and the webinars that they have posted where users don't have access to those types of pages. In addition, the user interface shall be implemented using the following languages and frameworks listed below for the front-end and back-end software of the web application:
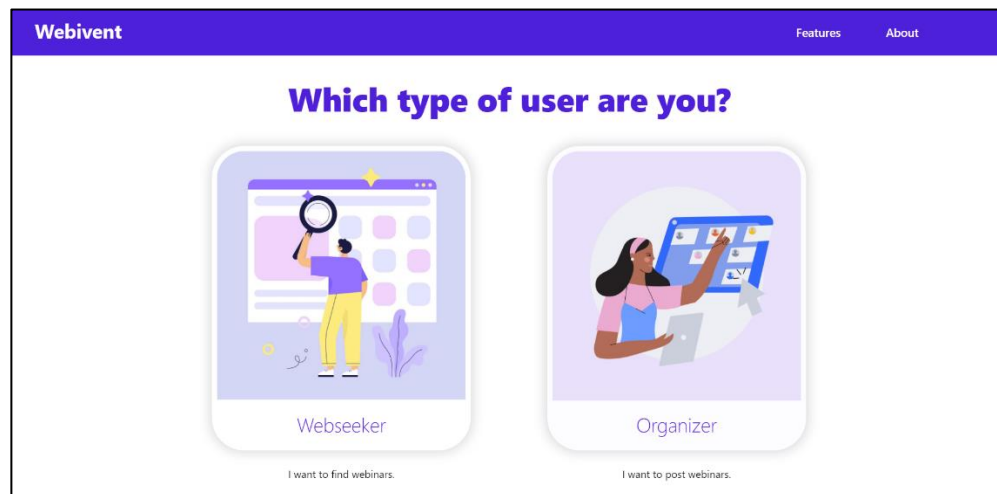
- Front-end software: HTML, CSS and JS
- Back-end software: Django

Below are the screenshots of the UI of the web application:

3.2.1.1. Home Page
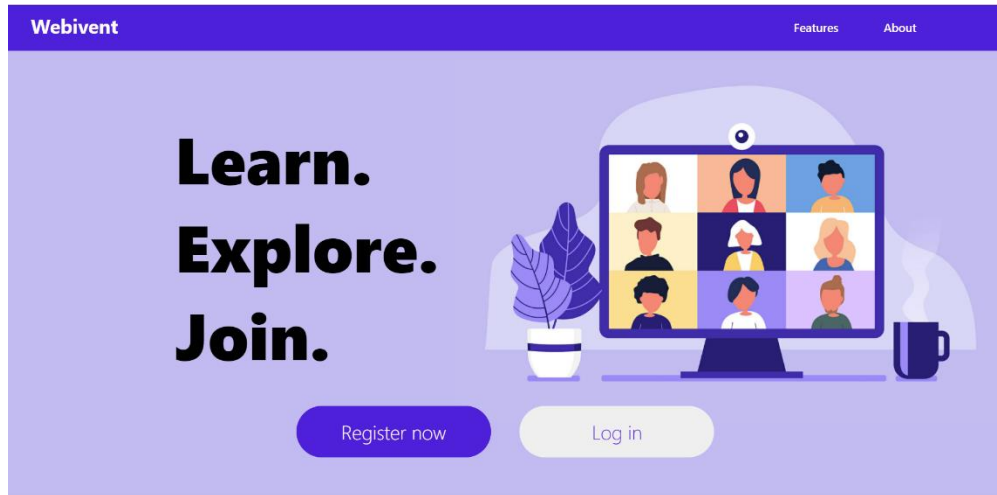
3.2.1.2. Type of User Page

3.2.1.3. Registration Page (User)

Registration Page

Account

Username

Password 👁

Confirm Password 👁

Password must contain at least 8 characters, at least 1 capital letter, 1 number and 1 symbol.

Personal Information

First Name

Last Name

Age

Occupation

City

Province

Country

Educational Background

School / University

(Please do not abbreviate the name of your school/university)

Course and Year Level

(i.e. BS Computer Science 2)

Interests

Please check the boxes you're interested in.

☐ Art
☐ Business
☐ Career
☐ Design
☐ Environment
☐ Gaming
☐ Health
☐ Leadership
☐ Media
☐ Politics
☐ Programming
☐ Technology

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3.2.1.4.   Login Page

3.2.1.5.   User dashboard

3.2.1.6.   My Profile Page (for user)

3.2.1.7.   Edit Profile Page (for user)

3.2.1.8.　Logout Page
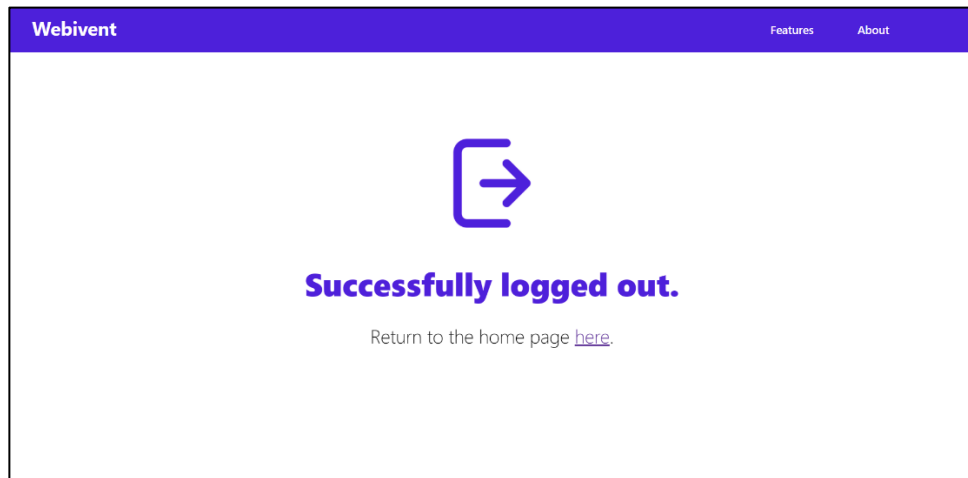
3.2.2.　Hardware Interface

The necessary hardware to run the web application is a gadget (i.e. smart phone, tablet, laptop, or desktop) that has access to internet connection. For laptops and desktops, the web application can be accessed through their operating system (i.e. Mac or Windows) with their default web browser. The user and organizers can access the web application using any of the mentioned gadgets. In addition, the hardware necessary to have internet connection to access the web application.

Below are the hardware specifications needed to run the web application:

	Windows	Mac
Operating System	Windows 7 or later	macOS Sierra 10.12 or later
Processor	Intel Pentium 4 or later	Intel
Memory	2 GB minimum	
Screen resolution	1280x1024 or larger	
Internet Connection	Required	

3.2.3.　Software Interface

The web application will run on any browser that supports CSS and JS. In addition, it is integrated with Django's database and authentication system. The user information is stored at the default database of Django.

For the organizer's dashboard, the web application allows exporting a list of registered participants to an Excel file via CSV data format.

3.2.4. Communications Interface

The web application uses the internet connection for users and organizers to communicate. With this, the web application shall use the HTTP protocol to ensure a credible and safe communication among users.

3.3. System Features

3.3.1. Register / Create account

3.3.1.1. Description and Priority

Users should create their account upon accessing their dashboard in the web application. Users will be asked to choose the type of user and enter a valid username, password, and necessary information to successfully create their account.

Priority Level: High

3.3.1.2. Stimulus/Response Sequences

1. The user clicks on the 'Register now' button located at the home page.
2. The system displays the 'Type of User' page.
3. The user clicks on one type of user they will be in the web application at the 'Type of User' page.
4. The system displays the corresponding registration form of the chosen type of user.
5. The user fills out all the necessary information present in the form and clicks on the 'Submit' button.
6. The system validates and authenticates the username and password, along with whether all required fields have been populated.
7. If registration is successful, the system displays the login page with an alert message that the account has been successfully created upon successful validation.
8. If registration is unsuccessful, the system displays the registration form along with the error message/s on top of the form.

3.3.1.3. Functional Requirements

FR-1 The system must allow users to register and create their account through a form in the registration page of the web application.

FR-2 The system must allow users to choose an option regarding the type of user they will be in the web application in the registration process.

FR-3 The system must check and verify the username such that there are no duplications and the password of the user contain at least a length of 8 and at least one digit, uppercase letter, and a special character before creating the account.

FR-4 The system must show an error message in the registration page once the username, password, or other required information have been taken and were not filled out respectively.

FR-5 The system must redirect to the login page once the user has successfully created their account in the registration page.

FR-6 The system must show a prompt message in the login page that the account has been successfully created.

3.3.2. Log in

3.3.2.1.   Description and Priority

This feature enables users to log in using their username and password to their corresponding dashboards in the web application and have access to various pages that are specific to their user type.

Priority Level: High

3.3.2.2.   Stimulus/Response Sequence

1. The user clicks on the 'Log in' button in the 'Home' page.
2. The system shows the 'Login' page.
3. The user enters the username and password and clicks the 'Login' button.
4. The system authenticates the user.
5. If user is authenticated, the system displays the dashboard.
6. If user is not authenticated, the system shows the 'Login' page with an alert message regarding entering invalid details.

3.3.2.3.   Functional Requirements

FR-1   The system must allow users to log in to their dashboard once authenticated by entering their account details, such as username and password, in the login page.

FR-2   The system must show an error message to the user in the login page if the account details entered are wrong/invalid.

FR-3   The system must only show the content and pages specified on the type of user option that the user has chosen in their dashboard.

3.3.3. Search webinar

3.3.3.1. Description and Priority

This feature enables the user to search webinars in the search bar and will show the results, if there are any.

Priority Level: High

3.3.3.2. Stimulus/Response Sequence

1. The user enters keyword/s to search and clicks the search icon.
2. The system displays the search results in a page, if there are any.

3.3.3.3. Functional Requirements

FR-1   The system must allow the user to search using keywords in the search bar.

FR-2   The system must return search results based on the keywords entered by the user.

FR-3   The system must show a search input field and a search button for the user to enter keywords to it.

3.3.4. Register webinar

3.3.4.1. Description and Priority

This feature enables the user to register to webinars of their interest.

Priority Level: High

3.3.4.2. Stimulus/Response Sequence

1. The user clicks on a webinar post.
2. The system shows the information on the webinar post.
3. The user clicks on the 'Register' button.
4. The system checks if registration slots are still available in the webinar management database.

5. If registration slots are still available, the system displays a message that registration is successful and adds user's information to the database.
6. If registration slots are not available, the system displays a message that registration is full and doesn't add anything to the database.

3.3.4.3. Functional Requirements

FR-1   The system must allow the user to click on the webinar cards to view information and register to it.

FR-2   The system must show a register button for the user to click and register.

FR-3   The system must show an alert message whether the user is registered in the webinar or not.

FR-4   The system must automatically add the schedule of the webinar in the calendar at the My Profile page once user has been successfully registered to it.

FR-5   The system adds webinar to user's database.

3.3.5. Save / Unsave webinar

3.3.5.1. Description and Priority

This feature enables the user to save the webinar and its information by adding it to the 'Favorites' page.

Priority Level: High

3.3.5.2. Stimulus/Response Sequence

1. The user clicks on the favorites icon to save the webinar post.
2. The system adds the webinar post to the 'Favorites' page of the user and alerts the user that the post has been added.
3. The user unsaves the webinar post.
4. The system removes the webinar post to the 'Favorites' page of the user and alerts the user that the post has been removed.

3.3.5.3. Functional Requirements

FR-1   The system must allow the user to save the webinar post by clicking the favorite button and alert user that it has been added to the 'Favorites' page.

FR-2   The system must allow the user to remove the saved webinar post by clicking the favorite button again.

FR-3   The system must show the list of saved webinar posts of the user in the favorites page.

3.3.6. Edit profile

3.3.6.1.   Description and Priority

This feature enables the users and organizers to edit their profile information and either discard or save those changes.

Priority Level: High

3.3.6.2.   Stimulus/Response Sequence

1. The user clicks on the 'My Profile' link.
2. The system shows the user's 'My Profile' page.
3. The user clicks on 'Edit Profile' button.
4. The system displays the user form to allow them to edit their information.
5. The user clicks on 'Save changes' button.
6. The system saves the updated information in the user's database and returns to the 'My Profile' page.

3.3.6.3.   Functional Requirements

FR-1   The system must allow users to edit and update their information in the 'My Profile' Page in their corresponding dashboard and either save or cancel the changes.

FR-2   The system must save the updated information in the database.

3.3.7. Create post

3.3.7.1.   Description and Priority

This feature is only applicable for organizers to create a webinar post that will be shown to the users.

Priority Level: High

3.3.7.2.   Stimulus/Response Sequence

1. The organizer clicks the 'Create Post' button in the dashboard.
2. The system displays the form for the organizer to fill out.
3. The organizer clicks the 'Submit' button.
4. The system saves the webinar post and its information in the webinar management database and shows a success message to organizer once it's been posted.

3.3.7.3. Functional Requirements

FR-1   The system must show a 'Create Post' button to organizers to fill out necessary information about the webinar / online event.

FR-2   The system must allow the organizer to save the webinar post as draft.

3.3.8. Edit post

3.3.8.1. Description and Priority

This feature enables the organizer to edit the webinar post details and have an option to inform the registered participants about the changes in the post.

Priority Level: High

3.3.8.2. Stimulus/Response Sequence

1. The organizer clicks on the posted webinar.
2. The system displays the webinar post and its details.
3. The organizer clicks on the 'Edit post' button.
4. The system displays the populated form of the post.
5. The organizer edits the details and clicks 'Save' button.
6. The system displays wither a success or error message if save is successful or not and updates the information stored in the database.

3.3.8.3. Functional Requirements

FR-1   The system must allow the organizer to edit the details of the webinar post by clicking the edit post button.

FR-2   The system must allow the organizer to have the option to inform the registered participants regarding the changes on the information of the webinar post.

FR-3   The system must save the updated information of the webinar post in the database.

3.3.9. View and Export Participants List

3.3.9.1. Description and Priority

This feature enables organizers to view the registered participants in a list view and export it as an Excel/CSV file for download.

Priority Level: High

3.3.9.2. Stimulus/Response Sequence

1. The organizer clicks the 'My Profile' page.
2. The system displays the 'My Profile Page'.
3. The organizer clicks the 'Posted Webinars' button.
4. The system displays a list of posted webinars of the organizer.
5. The organizer clicks on a webinar post.
6. The system displays the webinar post.
7. The organizer clicks on the 'Registered participants' section.
8. The system displays the list of registered participants.
9. The organizer clicks the 'Export as CSV' button.
10. The system generates an Excel/CSV file for the list and automatically downloads the file.

3.3.9.3. Functional Requirements

FR-1	The system must allow the organizer to see the participants registered on a certain webinar they posted.
FR-2	The system must show the list of posted webinars of an organizer in the 'Posted Webinars' page of their 'My Profile' Page.
FR-3	The system must include a section that shows the list of registered participants in a section in the webinar post of the organizer.
FR-4	The system must allow the organizer to export the list of registered participants as an Excel/CSV file.

3.3.10. Log out

3.3.10.1. Description and Priority

This feature enables users to voluntarily log out from their dashboards.

Priority Level: High

3.3.10.2. Stimulus/Response Sequence

1. User clicks the 'Logout' button.
2. The system logs out the user and displays the 'Logout' Page.
3. User is inactive for 5 minutes.
4. The system automatically logs out user and displays an alert message in the 'Login' Page.

3.3.10.3. Functional Requirements

FR-1   The system must allow the user to log out of the user dashboard by clicking the 'logout' button.

FR-2   The system must show the logout page once the user has voluntarily logged out from their dashboard.

FR-3   The system must automatically log out users when 5 minutes of inactivity has passed.

FR-4   The system must show a prompt message in the login page when the user has been automatically logged out due to inactivity.

3.4. Nonfunctional Requirements

3.4.1. Performance

The system will be run from a web server and can be accessed only using the web. It's loading time is dependent on the internet connection strength and hardware specifications of the user. There could be a possibility to experience delay such that the web application may not load properly with unstable/no internet connection. This may affect the retrieval of information from the database once requested by the user.

3.4.2. Safety

The web application and its corresponding webinar management system contains information regarding the registered users and are stored at a database in which should be protected to avoid unexpected leakage of their information which may lead to user dissatisfaction and conflict. Organizers who will be posting online events and webinars must ensure their validity and legitimacy to the users who might be interested to participate on their events so as to avoid misinformation.

3.4.3. Security

The users and organizers will have their own accounts and can only access pages and content based on the type of their account which they have chosen upon the registration process. Users and organizers must create an account and each of their accounts are protected with their own password so that their accounts can only be accessed by themselves.

The web application validates whether the username, email, and passwords follow the requirements to prevent any hacking incidents and duplication of information. The

users will automatically be logged out from their accounts after a certain duration of inactivity (i.e. 5 minutes of inactivity).

When exporting excel files for the organizers, it must be exported in a secured way to avoid unwanted information leaks and breach of privacy of the registered participants.

Passwords of the users are hashed based on the authentication system of Django to ensure data privacy. Only authenticated administrators are allowed to access the web application's back-end server with the use of Django.

3.4.4. Quality

3.4.4.1. Availability

The web application is available to users anytime they would like to access the web application through their gadgets. In addition, it shall ensure to run and execute the system when it is needed to prevent situations regarding the loss of data. The information present in the web application must be available for users who might be interested to join and should provide factual details.

3.4.4.2. Maintainability

The web application shall undergo maintenance on a regular basis to ensure that the operations and functionalities are up to date and working for the users. In addition, technical issues relating to the web application must be handled and be fixed as soon as possible.

3.4.4.3. Portability

The web application can be run on any browser with the minimum basic requirements of a gadget. Sections 3.2.2 and 3.2.3 can be used as reference for this type of attribute.

3.4.4.4. Reliability

The web application is reliant on internet connection to load and access it by the users. It shall be ensured that the organizer's posts will successfully be processed and avoid data loss once the system is down.

3.4.4.5. Usability

The web application is designed for users who are interested to find webinars and who would like to promote their online events all in one platform. The language used in the web application is English such that it is the universal language which caters to, if not all, most of the users. In terms of design and navigation, the web application's UI and interactions are simple and are designed to be user-friendly so that users will directly know the purpose of the design element present in the web application and execute the action they have expected it to do. The corresponding buttons and links must navigate to the expected page and action. Information presented in the web application must be concise and comprehensible without using complicated words to describe it.

References:

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