



Chesapeake Community Connection Website
Software Design Description
Version 1.1
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St. Mary's College of Maryland Capstone

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Table of Contents

1. Introduction.....	3
1.1 Purpose.....	3
1.2 Scope.....	3
1.3 Definitions, Acronyms, and Abbreviations.....	3
1.4 Document References.....	4
1.5 System Overview.....	4
2. Data Design.....	4
2.1 Internal Data Structures.....	5
2.2 Data Flow Diagram.....	5
3. Architecture Design.....	5
3.1 Program Structure.....	6
4. Interface Design.....	6
4.1 Internal System Interfaces.....	6
4.2 External System Interfaces.....	6
4.3 User Interfaces.....	6
4.3.1 Home Screen Display.....	6
4.3.2 Contributor Page.....	7
4.3.3 Login Display.....	9
4.3.4 Sign Up Display.....	10
4.3.5 Upload Submission Display.....	11
4.3.6 Profile Management Display.....	12
4.3.7 About Display.....	13
4.3.8 Help & Tutorial Display.....	13
4.3.9 Admin Page.....	14
5. Procedural Design.....	15
5.1 Flowchart Reference Key.....	15
6. Miscellaneous.....	16

Revision History

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October 11th, 2023	1.1	Initial Draft	Kylie Hall John Heinig Malik Hill Naheed John Yaro Kulchycky Isabella Stephens Brittany Brenneman
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1. Introduction

1.1 Purpose

The purpose of the Software Design Description (SDD) is to provide a detailed description - both internal and external - of the Chesapeake Community Connection (CCC) Website via the use of visual diagrams and models. It consists of four distinct but interrelated activities: data design, architectural design, interface design, and procedural design. These activities are described as the following:

- **Data Design:** It shall provide an understanding of the data in the software and how it is stored. Attributes and relationships between data objects dictate the choice of data structures. The data design includes flow diagrams that illustrate how the data will be handled.
- **Architectural Design:** It shall illustrate the overall structure of the CCC Website and map the information flow to the program structure. It shall serve as a blueprint for the overall application, illustrating what the CCC Website will look like when developed.
- **Interface Design:** It shall describe the internal and external program interfaces. It shall capture the appearance and design of the interface the user shall use upon deployment of the CCC Website.
- **Procedural Design:** It shall describe the internal logic of the CCC Website, including the graphical, tabular, and textual notations. It shall act as a blueprint for all of the software engineering work on the program where pseudocode will be the medium used to describe the full design of the software.

1.2 Scope

This Software Design Description (SDD) shall closely relate to the development of the software. The final product shall follow and reflect the final version of this document.

The SDD contains the following sections

- Introduction
- Data Design
- Architecture Design
- Interface Design
- Procedural Design
- Miscellaneous

1.3 Definitions, Acronyms, and Abbreviations

Acronym	Meaning
SDD	Software Design Document
SDP	Software Development Plan
SRS	Software Requirements Specification
STP	Software Test Plan
TM	Traceability Matrix
WP	WordPress

1.4 Document References

Document Title	Version	Date	Author(s)
TBD	1.0	October 11, 2023	Kylie Hall John Heinig Malik Hill Naheed John Yaro Kulchyckyj Isabella Stephens

1.5 System Overview

The Chesapeake Community Connection website serves as a hub for improving connections and knowledge exchange within the Chesapeake Community. Its core function is to encourage users to share their environmental stories in audiovisual formats. The platform features an accessible user interface accompanied with a designated page explaining the user interface and its capabilities, content submission capabilities, admin oversight for safety, a filtering system for efficient content discovery, and an interactive map system highlighting community-related locations. It ensures seamless access on both mobile and desktop devices through the Google Chrome browser, facilitating widespread community engagement and knowledge sharing.

2. Data Design

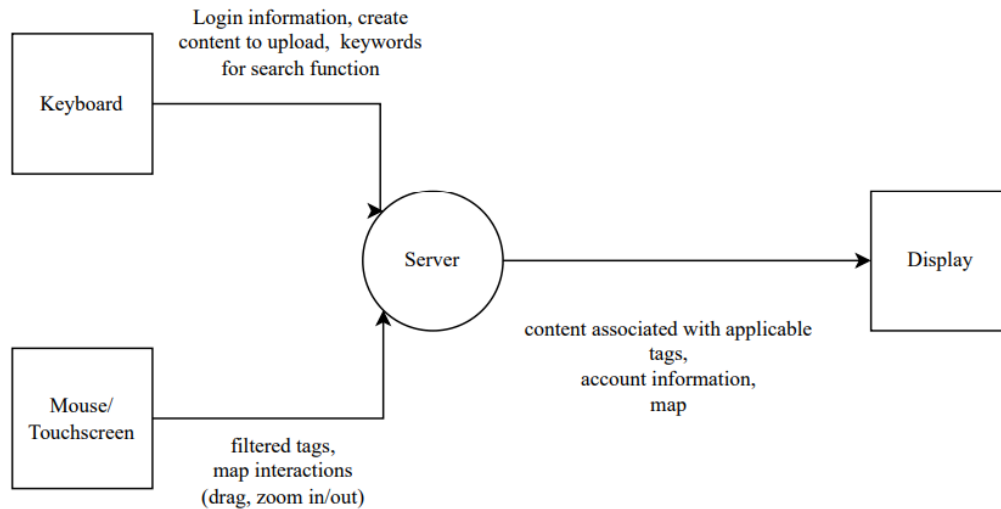
This section outlines all data structures to be implemented and how they should be implemented.

2.1 Internal Data Structures

Plugins	Description
WP Google Maps	A plugin to allow for a customizable map using google maps
oneTap google sign in	Allows the user to sign in using their google account

2.2 Data Flow Diagram

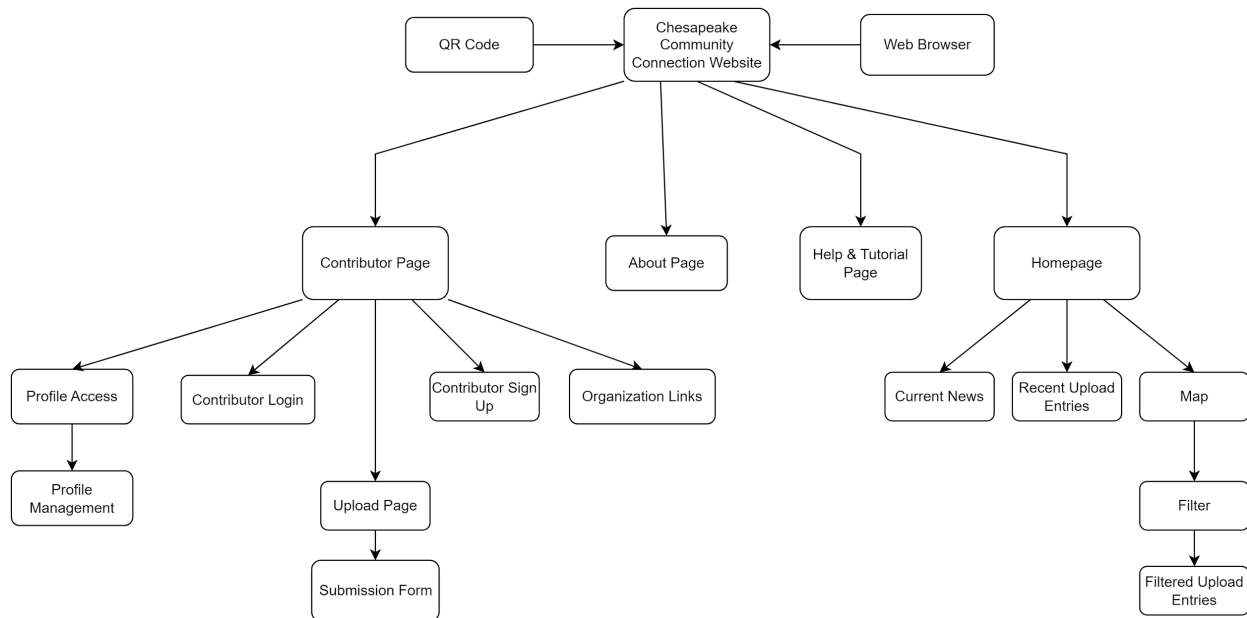
The Data flow diagram describes the relationship between hardware and software devices, and the information each will communicate between each other.



3. Architecture Design

The architecture design outlines the hierarchy of the program, as well as indicating coupling relations between modules.

3.1 Program Structure



4. Interface Design

The interface designs contain internal, external, and user. These are used to expand the architectural model and to further depict visual and operational interfaces.

4.1 Internal System Interfaces

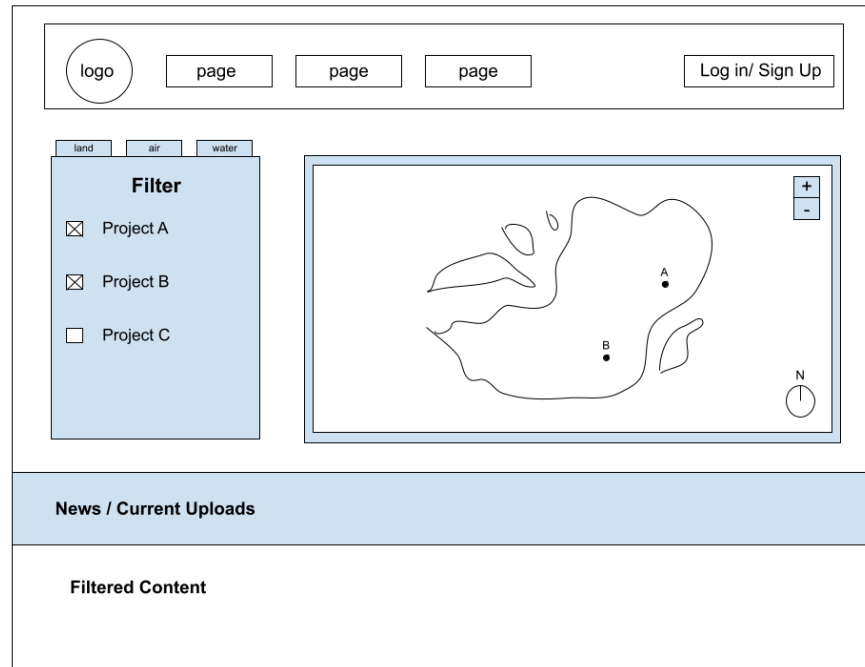
4.2 External System Interfaces

4.3 User Interfaces

The user interfaces are what the user will see upon entering the website.

4.3.1 Home Screen Display

- **Areas:**
 - **Map:** Area where the user can access content. Contains a compass and a zoom-in/zoom-out option.
 - **Header:** Area where the user can access the Contributor Page, the Tutorial & Help Page, and the About Page.
 - **Filter:** Area where the user can filter content to appear on the map.
 - **Bottom:** Area with news/current uploads displayed. Area where selected content information appears, including the audiovisual file, area, and description.



4.3.2 Contributor Page

- **Areas :** Before Log-In
 - **Log-in & Sign Up:** Log-In/Sign Up options for contributors.
 - **Description:** “What it means to be a contributor” section, describing what a contributor is and how to become one.
 - **Links:** Area where the user can visit related contributors via links.
- **Areas:** After Log-In
 - **Logout:** An option that replaces the previous Log-In and Sign Up options.
 - **Upload:** Option to upload content to the website (check if exclusive to members)
 - **Profile Management:** Option to manage information regarding the user's account.
 - **Description**
 - **Links**
- **Areas:** Contributor Search
 - **Search Bar:** Searches via username.
 - **Alphabetical Display:** There is a navigator at the top of the page that lets the user sort by alphabetical order.
 - **Contributor:** Each contributor has their name and their mission statement displayed.

logo

page

page

page

Hello!

Login

Sign Up

What it Means to be a Contributor

Summary on what a contributor means +
how to become one

Want to see other contributors?

Yes!

logo

page

page

page

Welcome [Name]!

Upload

Profile Management

Logout

What it Means to be a Contributor

Summary on what a contributor means +
how to become one

Want to see other contributors?

Yes!

logo page page page

Text Input [button]

A-E F-K L-P Q-U V-Z

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

Username - Mission Statement

4.3.3 Login Display

- **Areas:**
 - **Login Username:** The user puts in their name.
 - **Login Password:** The user puts in their password.
 - **Login with Google**
 - **Sign Up:** For users if they are not in the database.
 - **Forgot Password:** Gives the option of resetting the user's password (if an individual) or getting in contact with an administrator (if an individual or organization).
 - **Help & Tutorial Page Link**

logo page page page

Contributor Login

Username
Text Input

Password
Text Input

LOGIN

Login with Google
Forgot Password?
Sign Up

Need some help? Click below!
[Link to Help & Tutorial]

4.3.4 Sign Up Display

- **Areas:**
 - User Name
 - Password
 - Password Confirmation
 - Email Address
 - What does it mean to be a Contributor? Blurb.

The wireframe shows a web page layout. At the top, there is a header bar containing a circular 'logo' placeholder and three rectangular 'page' placeholders. The main content area is divided into two columns. The left column features a large light blue rectangular area with the text '*Insert Image Here*' at the top, and a white rectangular box at the bottom containing the text 'Welcome to Chesapeake Community Connection!'. The right column contains a registration form titled 'Create Your Account!'. This form includes four input fields: 'Username', 'Password', 'Retype Password', and 'Email Address', each followed by a red asterisk. Below these is a text area labeled 'What does it mean to be a Contributor?'. At the bottom of the form is a grey 'CREATE' button.

4.3.5 Upload Submission Display

- **Areas:**
 - **Title:** Area where the user can input the title for the content that they are uploading.
 - **Author:** Text box that allows the user to input the Author of the content to be displayed with the content.
 - **Location:** the location attributed to the content being uploaded, could take in an address or a set of coordinates. A set of coordinates are automatically assigned if not put in.
 - **Content Description:** A short description of the content, to be displayed along with the title and author when searching.
 - **Upload Files:** the area to upload files from a local device to be uploaded as the main body of the content. The user should be able to upload from file types .mp3/.mp4/.png/.jpg/.pdf.
 - **Choose Categories:** a dropdown menu showing the available tags to assign to the content.

logo page page page

Title:
Input

Author:
Input

Location:
Input

Description:
Input

Upload Files
Choose file .mp4/.mp3/.png/.jpg

Selected files:
[example-file.mp4](#)

Choose Categories
select
Example Tag
Example Tag 2
Example Tag 3
Example Tag 4

SUBMIT FOR APPROVAL

4.3.6 Profile Management Display

- **Areas:**
 - **User Information:** Information about the user that is already established in the system, such as their name, their password (censored by stars), their profile picture, their contact information, and their location (if they choose to show it).
 - **Change Name:** A text box that allows the user to change their name.
 - **Change Password:** Three text boxes that allow the user to change their password. The first text box requires the user to type in their old password. The other two require the user to type in their new password. All passwords are censored.
 - **Change Profile Picture:** Upload a .png/.jpg image from the user's device. Discards previous profile picture.
 - **Change Contact Information:** Allows the user to change their email address or phone number.
 - **List of Submissions:** List of the user's submissions.

The diagram illustrates a user profile management interface. At the top, there is a navigation bar containing a circular 'logo' button and three rectangular 'page' buttons. Below this, a user profile section features a circular 'user profile image' placeholder on the left. To its right, a light blue box contains fields for 'User Name', 'Phone Number', 'Location', 'Password (****)', 'Email Address', and a 'Location Visibility' checkbox. Below the profile section are four distinct panels, each with a title and a 'SUBMIT' button: 'Change Name' with a 'New Username' text input; 'Change Password' with 'Old Password' and 'New Password' text inputs; 'Change Picture' with a 'Choose File' button and a '.png/.jpg Info' text input; and 'Change Contact' with 'Phone Number' and 'Email Address' text inputs. At the bottom of the interface is a large light blue box labeled 'User Submissions'.

4.3.7 About Display

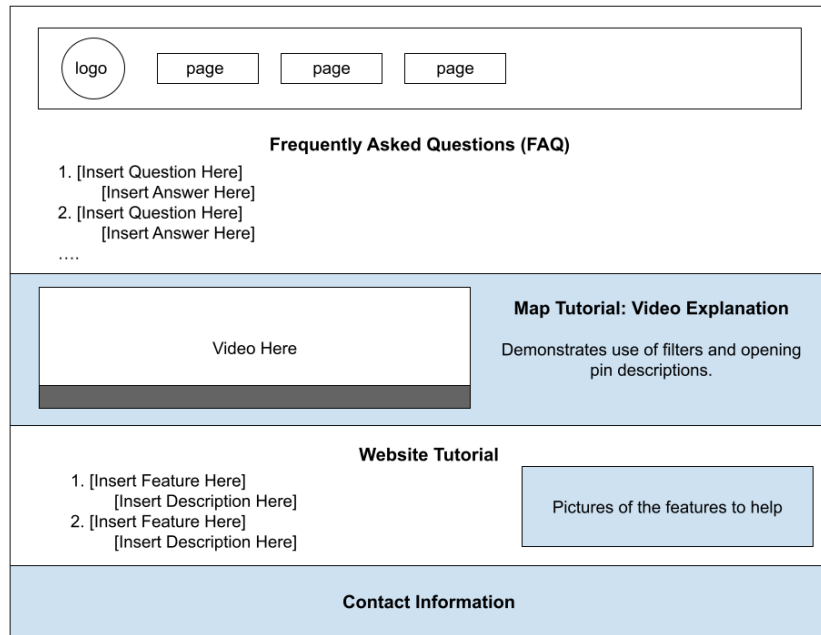
- **Areas:**
 - **About the Website:** Talks about its creation, purpose, etc.
 - **About the Contributors:** Talks about the contributors (has a link to the contributor page at the bottom).

The diagram shows the layout of an 'About Us' page. It features a navigation bar at the top with a circular 'logo' button and three rectangular 'page' buttons. The main content area is titled 'About Us' and contains a circular 'logo' placeholder and a rectangular 'About us' box. Below these, the page is divided into two columns. The left column is titled 'Mission Statement' and contains a rectangular box with the text 'Mission statement + explanation of who we serve'. The right column is titled 'Who are we?' and contains a circular 'photo' placeholder.

4.3.8 Help & Tutorial Display

- **Areas:**

- **Frequently Asked Questions:** a showcase of questions we think a user might have
- **Map Tutorial:** A video explanation that demonstrates the use of filters and how to open pin descriptions.
- **Website Tutorial:** Tutorial about the basic features of the website.
- **Contact Information**



4.3.9 Admin Page

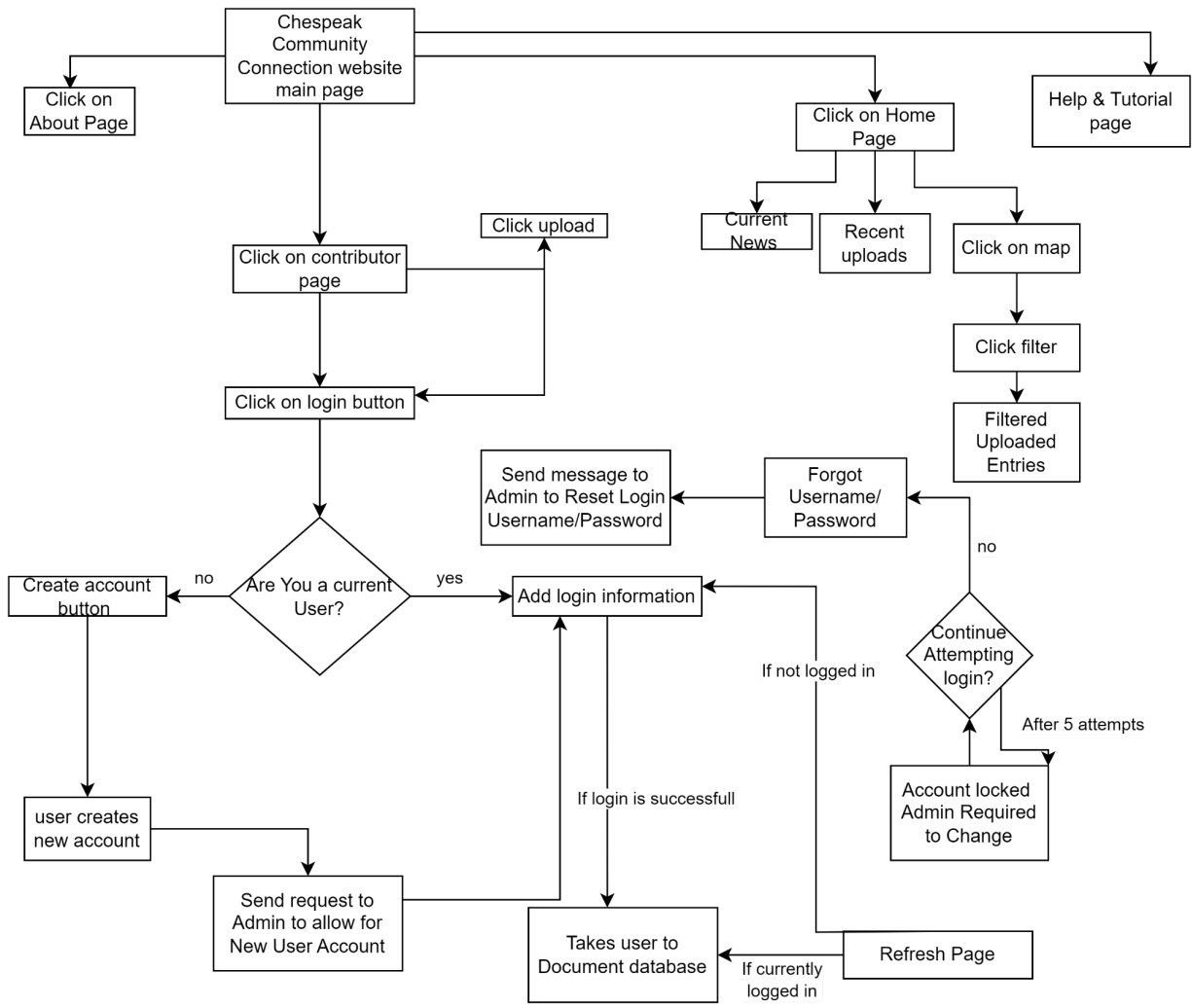
- **Areas:**
 - **Admin User Request Page:** Area where user submissions appear. The admin can either approve or reject the user submissions.
 - **Account Search:** Lists current users. The admin can search for a specific user either by email or username. Clicking on a user leads to a page similar to the user's profile management display, but with the options to
 - **Account Editing:** Admins are able to create, edit, and delete accounts of other users.

This wireframe shows a web interface with a top navigation bar containing a 'logo' and three 'page' links. The main content area is divided into two columns. The left column contains four identical 'User Submission Pending Approval' cards, each with fields for Title, Author, Location, and Description, and status indicators (a green square and a red square with an 'X'). The right column features a search bar with a 'Text Input' field and a 'Search' button, followed by a list of five user profile entries. Each entry includes a 'Profile Picture' placeholder and a 'Username or Email' field.

This wireframe displays a user profile and settings page. At the top is a navigation bar with a 'logo' and three 'page' links. Below this is a 'user profile image' placeholder. The main profile section contains fields for User Name, Phone Number, Location, Password, and Email Address, along with a red 'DELETE' button. Below the profile section are four settings cards: 'Change Name' (with 'New Username' and a 'Text Input' field), 'Change Password' (with 'New Password' and a 'Text Input' field), 'Change Picture' (with a 'Choose File' button and a '.png/.jpg Info' field), and 'Change Contact' (with 'Phone Number' and 'Email Address' fields, each with a 'Text Input'). Each settings card has a green 'SUBMIT' button. At the bottom is a large blue box labeled 'User Submissions'.

5. Procedural Design

5.1 Flowchart Reference Key



6. Miscellaneous

No miscellaneous items at this time.