# ShroomBase Application

ENSE 374

Project Final Report

Team Picard

Conner Williams, Everett Stone, Maksim Sharoika

**Introduction**

When our team was in the process of selecting an idea to create for our project we came across a study by Brandenburg and Ward that stated in a span of 18 years, from 1999 to 2016, “133,700 cases (7428/year) of mushroom exposure, mostly by ingestion, have been reported… [and] approximately 704 (39/year) exposures resulted in major harm”. (Brandenburg and Ward) However, not all mushrooms cause harm, and some contain great benefits when consumed being sources of fibre, protein, and antioxidants while also being proven to reduce the risk of heart disease, Alzheimer’s, cancer, and diabetes. (WebMD)

Armed with the information we decided to create an MVP with the purpose to inform the general public regarding the appearance, location, benefits, and hazards of mushrooms. Our goal was that when we are done; mushroom mishandling such as ingesting of wrong strains will be avoided as people will be able to make informed, accurate, and healthy decisions regarding what mushrooms they consume.

**Walkthrough of ShroomBase**

To achieve this goal we developed the online web-based tool that we have named “ShroomBase”. The main page of ShroomBase welcomes the user and gives a brief description of the features the user can access (see figure 1.0). The top left of the homepage has a collapsible search bar where all the mushrooms within the database are contained (see figure 1.1). Clicking on the icon reveals all the mushrooms in a scrollable list that contains a search bar at the top. The user can either click on a mushroom’s name or search for either a name (see figure 1.2) or a key concept of a mushroom (see figure 1.3). The top right of the homepage is where the user can click to log in (see figure 1.4), sign up (figure 1.41), or change their password (see figure 1.42). When the user is logged in, a pop-up menu appears that allows the user to log out (see figure 1.5). If a mushroom is selected, the user is taken to a new webpage (see figure 2.0). On the left, the user sees the common name of the mushroom, the scientific name of the mushroom, and a picture of the mushroom. On the right, the user sees information (top to bottom) on; 1. whether the mushroom is safe for consumption, 2. benefits or symptoms caused by the mushroom, 3. other facts about the mushrooms, and 4. where the mushroom is located.

**Documentation**

When our group began the project documentation we had to create a goal, objective, and primary target for our MVP to be oriented. Our goal listed in our project charter was to create a database containing facts, locations, and dangers about mushrooms from around the world. Our Northstar (primary) customer was foragers/hikers or people living in more rural areas with multiple types of mushrooms growing in the area. This goal was further developed within our project scope statement where we declared the main features we hoped to accomplish with our ShroomBase. We wanted a fully interactable interface, plenty of facts about the mushrooms (location, appearance, danger level, etc), first aid information (this became symptoms when a poisonous mushroom is consumed), and a working log-in feature. In our final MVP, most of these goals were achieved.

We then had to decide how the project would be carried out and listed our options: we could make it ourselves, outsource it to someone else, or just abandon the idea. We decided to create ShroomBase ourselves because we had no monetary budget and it was in our interest as both a learning opportunity and a requirement to pass this class. We then had to decide how we would create ShroomBase, where we decided to code using Visual Studio Code and a combination of HTML, CSS, and JS for the main interactable features, and MongoDB and NODE.JS for many of the back-end code to make the features operate properly. Knowing that we were creating ShroomBase and what we were using it to do, we now had to delegate tasks to each of our group members to give a general idea of who was in charge of what part of the project. We decided to assign Conor Williams as the front-end developer with the intent of working more on how the MVP looked and interacted, Everett Stone as the back-end developer working on how the MVP interacted behind the scenes and Maksim Sharoika as a full-stack developer and project manager going between both back-end and front-end helping where needed and making sure the project was moving along at a good pace. Maksim was chosen as a project manager because he had the most experience programming out of our Team Picard members. While these designated roles were deviated from, having them declared helped provide our team with a sense of direction and got the project started.

**Did we accomplish our goals?**

Through ShroomBase we believe that our goal of being able to inform people about different types of mushrooms has been achieved. We wish to promote awareness and knowledge regarding both healthy and poisonous mushrooms, and our MVP can do so quickly and efficiently. As time goes on, if development on this MVP would continue, ShroomBase was designed to be able to add more mushrooms to an ever-expanding list to eventually display all the potentially dangerous mushrooms that it would need too. A drawback of our design is that it does not contain offline functionality and requires the internet to be properly utilized. This means that if someone was in a location that had no internet, they would have no access to ShroomBase to properly lookup mushrooms before collection/consumption.

**Feedback Implementation**

Partway through the project development, another team took a look at our project and provided comments and feedback. This was helpful as having a third party take a look at our work provided another view as to what worked and what could be done to further optimize and improve upon our current design. Such feedback included adding a section to the webpage that detailed what the user should do if they consume a deadly mushroom, using the common mushroom names over the scientific mushroom names in the search bar, the using a heart system so that users can pin certain mushrooms to make it easier to find later, and that our old colour-scheme was too “loud” and conflicting.

After implementing this feedback, some changes were made instantly; the colour scheme of our website changed from red, yellow, and green, to a lighter gray, blue, and normal gray. Our search bar now uses the common names of mushrooms instead of the scientific names. Having the search bar contained within the mushroom list was also implemented. The final suggestion we implemented was the use of a favourite button where, by clicking the heart beside a mushroom’s name in the search bar, it becomes favourited and easier to find later by being moved to the top of the list. This was done so that users could favourite common mushrooms around their location for easy access later. Some suggestions were not implemented, however. The suggestion to have what a user could do if they consumed a poisonous mushroom was not implemented as we only wish to provide the user with information as to what the

symptoms are, and what kind of mushrooms are deadly with the hope that if they did consume the mushroom that they would either contact poison control or the hospital (or the equivalent at their location) and get that information then. This was so that we wouldn't accidentally give the user potentially incorrect information, as a treatment for one mushroom with similar symptoms may not work for another, while medical treatment would be a lot more accurate and safe.

**Reflection and Obstacles we Faced**

Learned about website interface design. Finding out what colours worked well together, and what colours clashed on a website. Finding out where certain objects looked better, such as; did the image look better on the right or the left of the screen, should the image be smaller or larger, and will the information surrounding the image or be next to it.

We had various complications when designing our favourite feature; the hearts. This was due to us first deciding on creating an array under the mushroom object to reduce our database complexity, trying to create the conditional statement to then be able to find the users' favourited mushrooms was impossible and would become exponentially more expensive concerning hardware resources. This was abandoned and we created a new table which linked a user's username to the mushroom name, this then would either have an entry added or removed upon a favourite action.

Throughout the entire project, the emphasis put on communication was incredibly large. Everyone in our group had different strengths and weaknesses, so being able to talk and assign roles that suited their current skill set was necessary for getting the project to move along at a smooth pace. This did not mean only assigning a person to what they were good at but making it so that every member could at least accomplish the task given before a certain deadline. Communication was also key when deciding goals and due dates for the assignment; this was done so that everything would not be left until the last minute. This also meant that we had to drop certain features as certain problems came up in key areas that took away from the time we needed for less-important tasks.

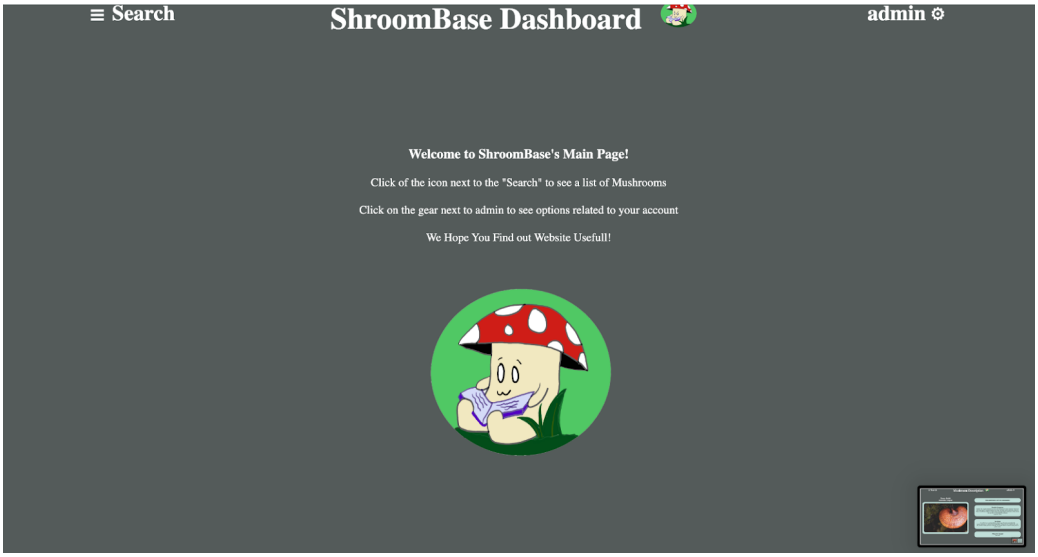
Learning the documentation and the process of starting a project like this was also valuable. It showed just how much effort and thought needs to go into what a project is, what we hope to accomplish,

and how we plan to accomplish it before even starting on any of the programming sections, which feels like the main part of a project.

References

Brandenburg and Ward. *Mushroom poisoning epidemiology in the United States*. Mycologia. Retrieved November 27, 2022, from https://pubmed.ncbi.nlm.nih.gov/30062915/

WebMD. (n.d.). *Mushrooms: Health benefits, nutrients per serving, preparation information, and more*. WebMD. Retrieved November 27, 2022, from https://www.webmd.com/diet/health-benefits-mushrooms#:~:text=Mushrooms%20are%20a%20rich%2C%20low,Selenium




(Figure 1.0 - ShroomBase home page)

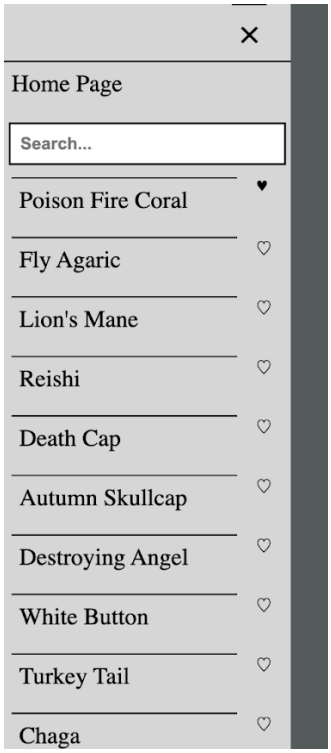



Figure 1.1 (SearchBar)

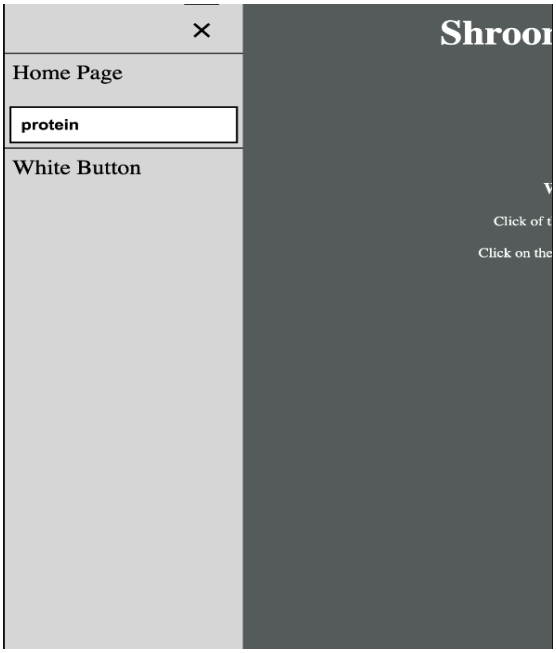



Figure 1.2 (Search for Phrase on Mushroom Page)

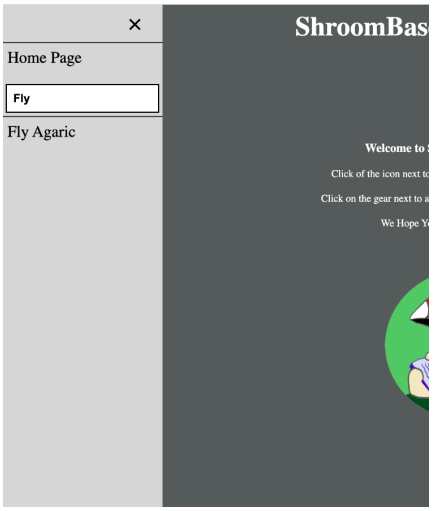



Figure 1.3 (Search for Name)

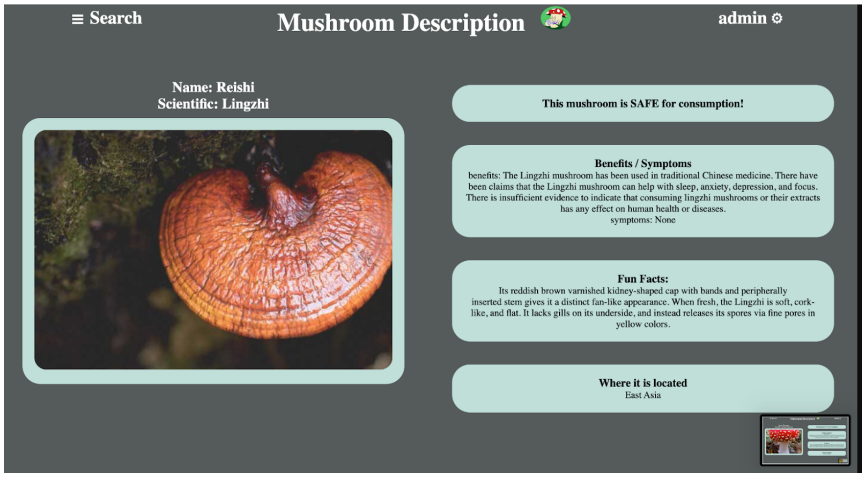



Figure 2.0 (Mushroom Page)

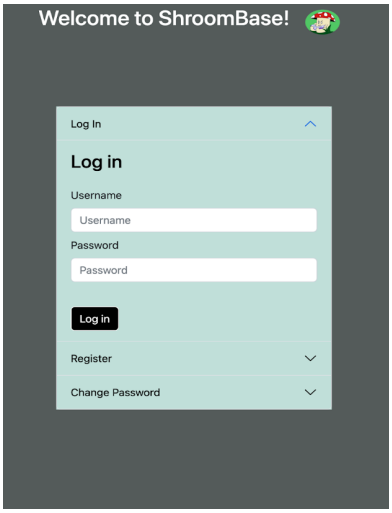



Figure 1.4 (login)

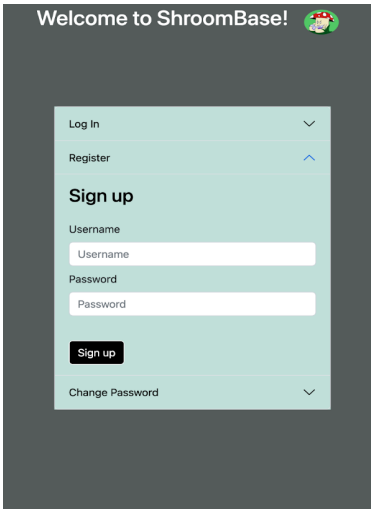



Figure 1.41 (signup)

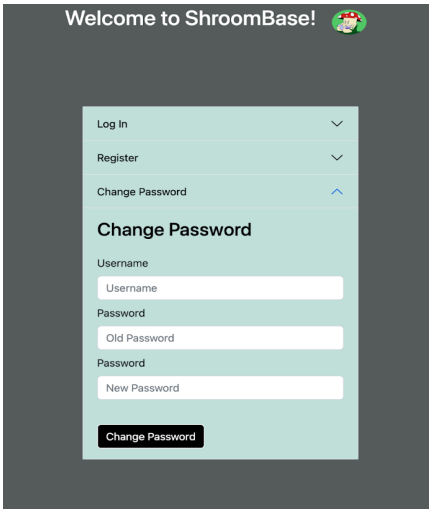



Figure 1.42 (change password)

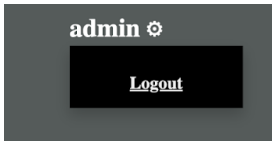



Figure 1.5 (Logout Popup)