

## Problem

The problem with computer security education is that there is a shortage of educational materials and labs for students and educators. This affects students because it is hard to learn computer security as a theoretical topic because it involves a lot of hands on exercises to fully grasp the concepts. It also affects educators because it takes a lot of time and effort to put together security labs and if they are not that knowledgeable about the topic it will be much more difficult. The impact of this problem is that computer security is not taught often at the undergraduate level and when it is taught the program lacks the resources to do it as effectively as possible.

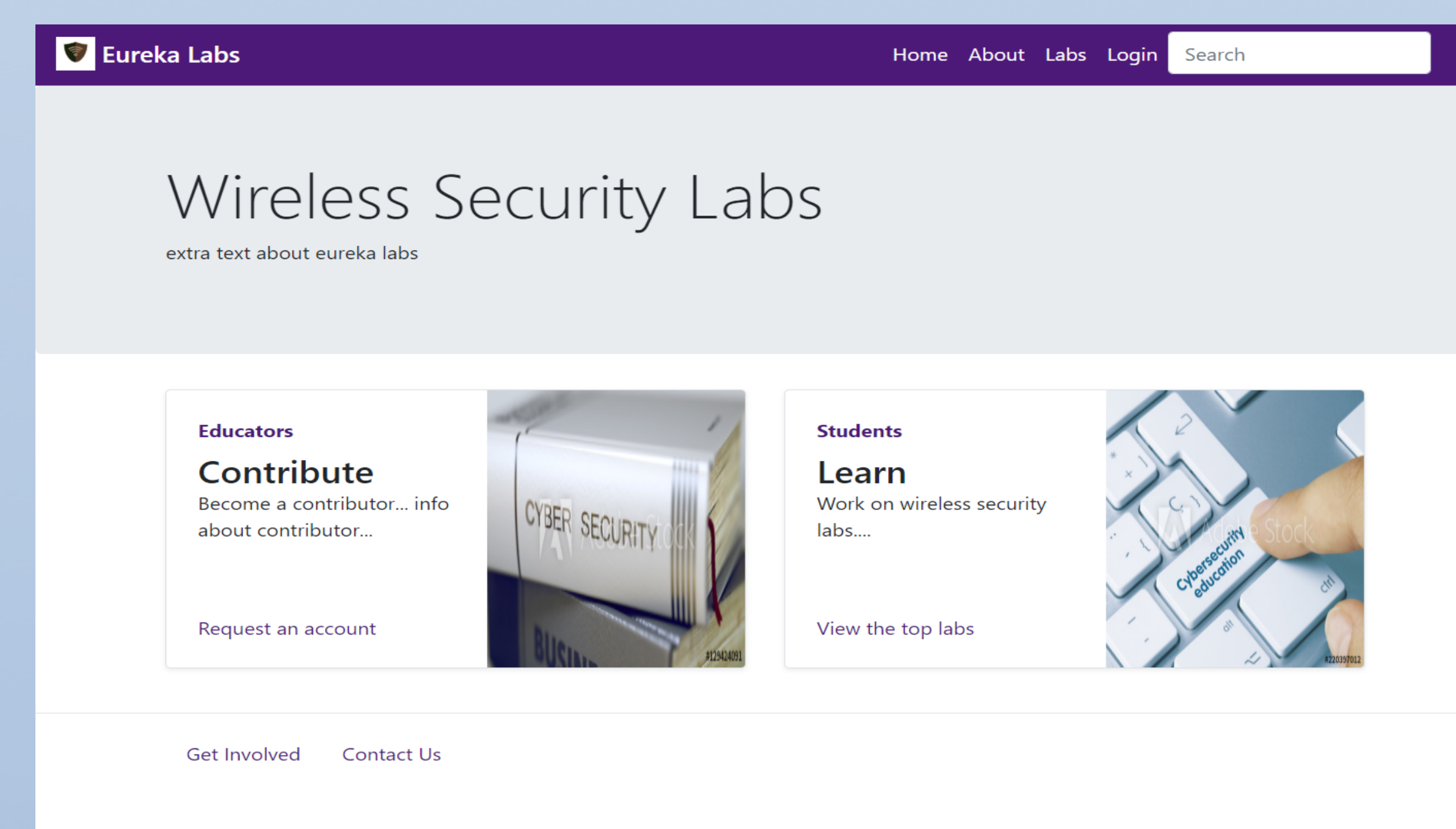
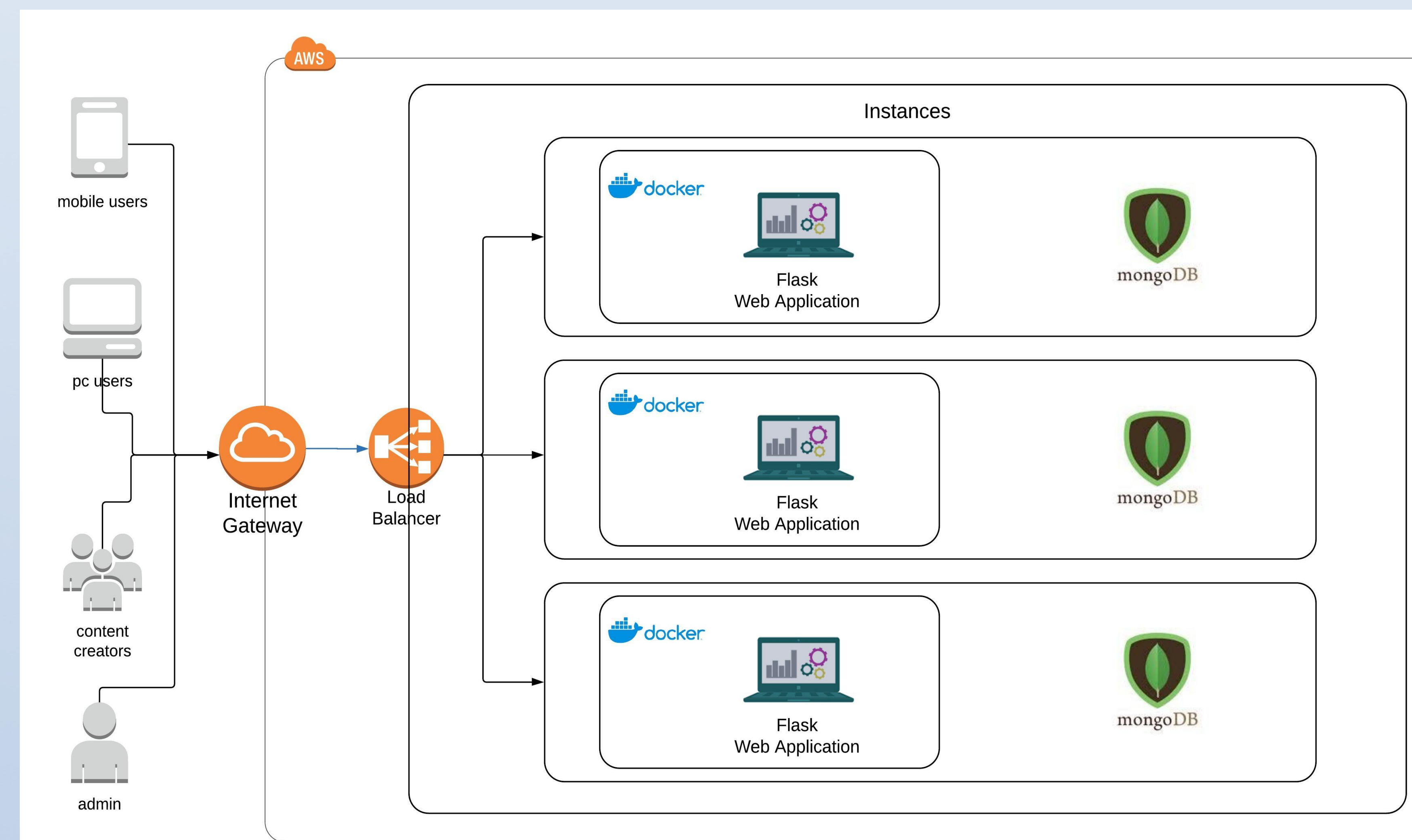
## Goals

- Provide a centralized repository for labs and assessments.
- Allow content creator to post lab materials.
- Allow students to access lab materials.
- Provide admin with lab and user statistics.
- Provide platform to students to post lab concerns.
- Provide users ability to search for labs in the database.

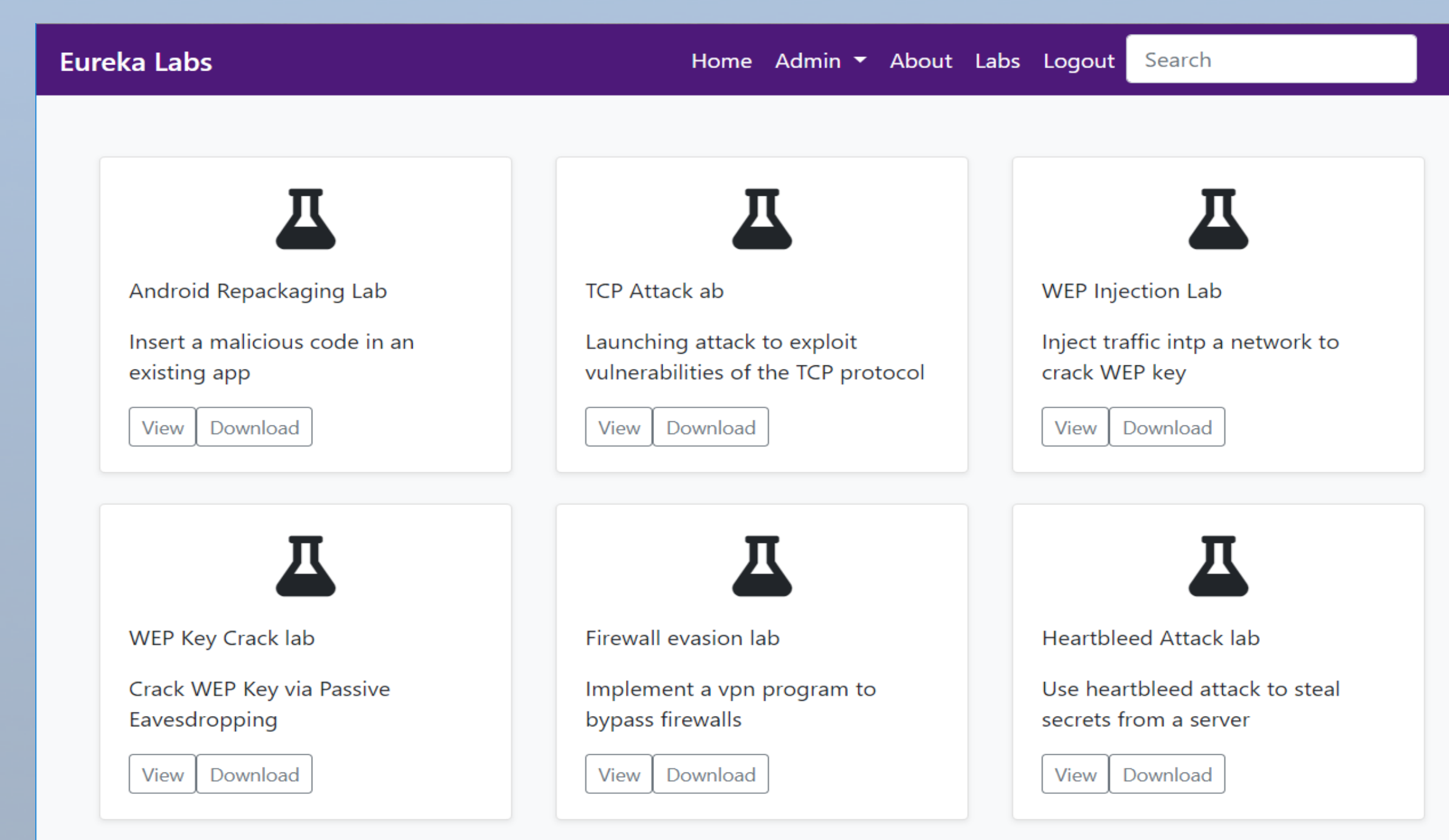
## Our Solution

- Due to client specification the web application users are split into four groups – Admin, content creator, educator and student users.
- The admin has complete access to the front end and the back end. The admin also controls the content creators and educators requests.
- The content creators have access to the labs they have posted on the website and have the access to edit them.
- The student user can view and download labs posted on the website. The student can also submit concerns back to the content creator regarding their respective labs

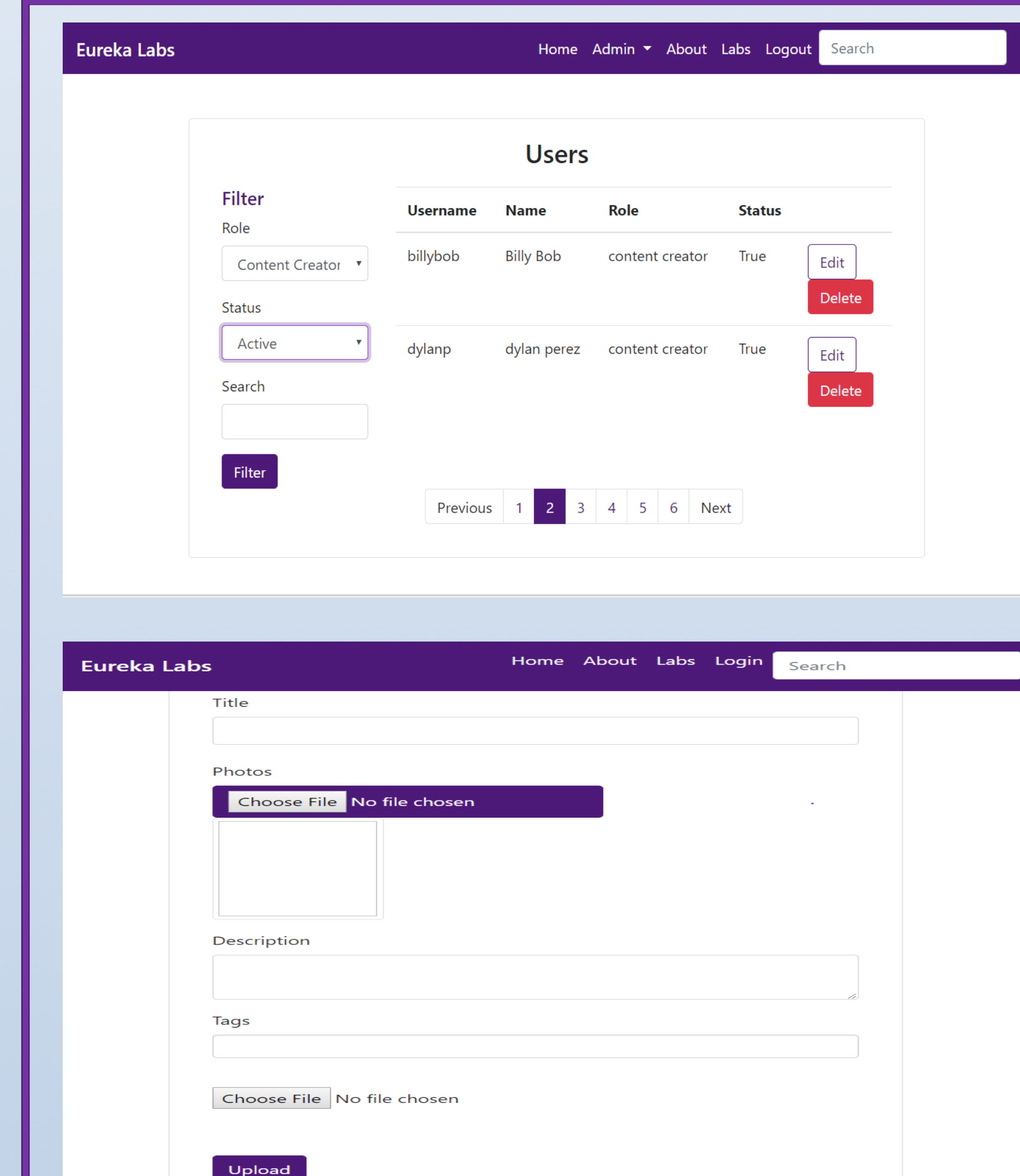
## System Architecture



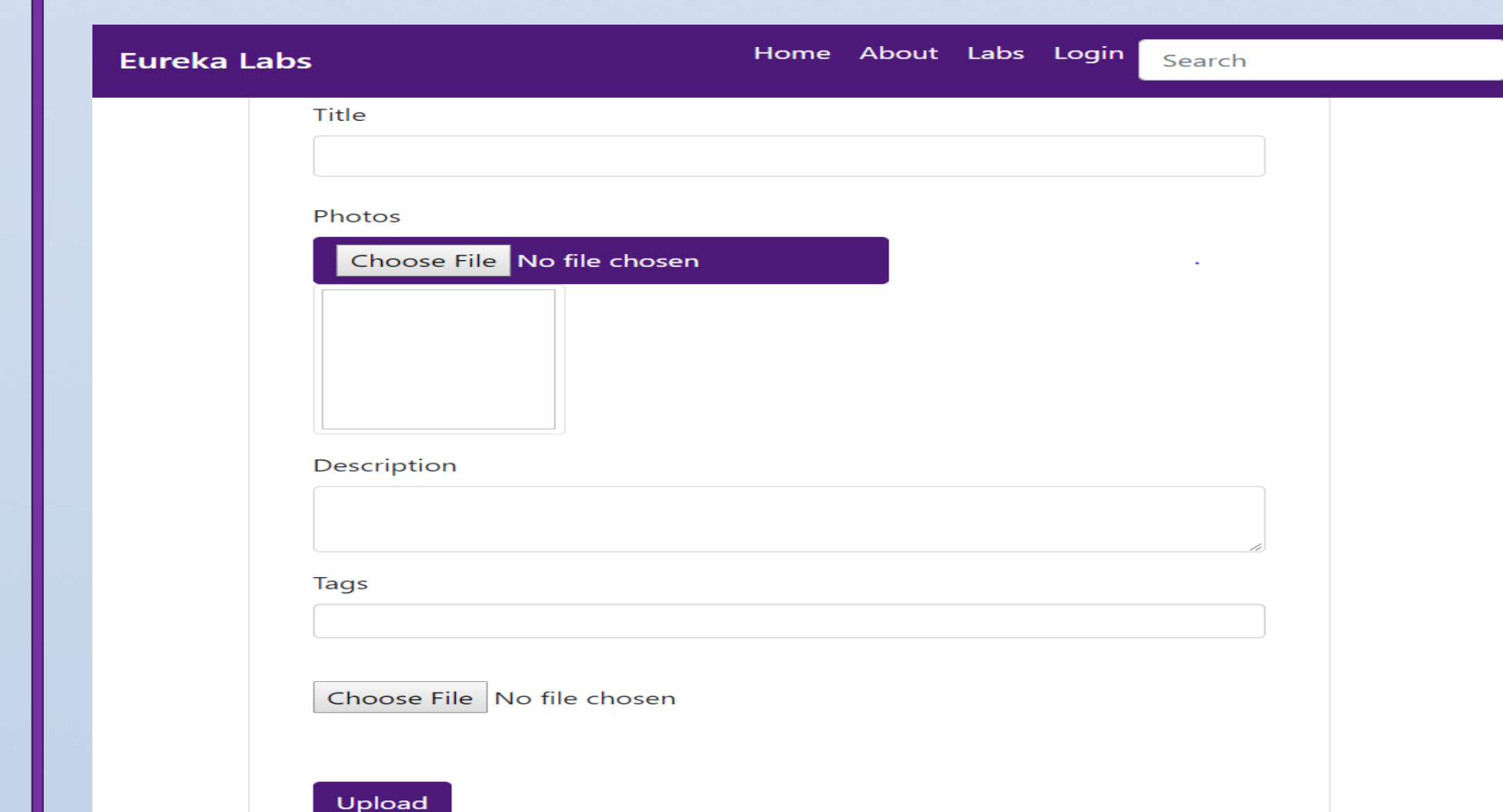
This is the landing page of the website. The website is geared to focus on its two type of users i.e., content creators and educators or students. The homepage directs our user to their best fit directions



This is the page on which all the labs posted by various content creators would be posted. The lab allows student user to choose and select between labs to view or download. The lab page also supports search by name, description or tags.



This is the admin view of the user's database. Admin can add and edit users to the database. Admin can also search users by their specific roles and status.



This is the lab upload page for the content creators. The labs are stored in the database with fields such as name, description, tags, files, images and links.

## Web Technology Stack



## Acknowledgements

Our team would like to thank Dr. Ma for providing us with the opportunity to work on this project which introduced us to various new technologies and challenges. We would also like to thank Dr. Wei for his patience, guidance and a constant enforcement for deadlines, team meetings and planning throughout this project. Additionally, we also thank Kenzie Clark for her contributions in the designs and layouts for our website.

## References

Bootstrap Documentation – <http://getbootstrap.com/css/>  
 Flask Documentation – <http://flask.pocoo.org/docs/1.0/>  
 Flask S3 – <https://flask-s3.readthedocs.io/en/latest/>  
 Flask WTF – <http://flask.pocoo.org/docs/1.0/patterns/wtforms/>  
 Nginx – <https://nginx.org/en/>