Eureka Labs

Vision Document

Version 1.0

Revision History

Date	Version	Description	Author
7/October/2018	Draft	Initial Draft	
1 May 2019	1.0	Final	Antonio Rodriguez Esquire, Dylan Perez, Geordie Jones, Hunter Merritt, Sabyasachi Sahoo

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Vision

1. Introduction

1.1 Purpose

The purpose of this document is to collect, analyze, and define high-level needs and features of the Eureka Labs. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how the Eureka Labs fulfills these needs are detailed in the use-case and supplementary specifications.

2.   Positioning

2.1   Problem Statement

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. A successful solution to this problem would be a centralized repository for labs and assessments that would allow educators to effectively teach security without all the time and effort put into creating labs. The centralized repository would also allow students to effectively learn as they would have access to step by step instructions, a community form to discuss roadblocks, and an assessment tool to measure how much they have improved on the topic. The combination of these factors will lead to a more enjoyable and effective experience for educators and students alike.

2.2   Product Position Statement

For educators who need computer security teaching materials Eureka Labs is an online education portal that provides step by step instructional labs and online assessment. Eureka Labs will be the only resource you need for your computer security lab materials.

3. Stakeholder and User Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
Dr. Liran Ma	Professor, Texas Christian University	ensures that the system will be maintainable, monitors the project's progress.

3.2 User Summary

Name	Description	Responsibilities	Stakeholder
Student User	end user of the system	Needs to be able to view the labs to be able to complete them.	
Professional Educator	end user of system	Needs to create assessments if assigning the labs to students.	
Content Creator	local admin	Needs to have a way to create a lab and keep it updated. Needs to be able to generate reports on lab usage.	
System Admin	system admin	Performs all functions of other users. Maintains the site/system.	
TCU IT	facility that runs the computing environment	Needs to keeps servers running and maintain firewalls to keep traffic flowing.	

3.3 User Environment

The Eureka websites user environment will be web-based. The user will have a profile from where they can create and post labs of their own creation. The user will have a easy to follow instructional page for creating labs and should be able to create new labs with ease. The user will be able to view all existing labs on the website, and find existing labs through a search bar.

3.4 Summary of Key Stakeholder or User Needs

Need	Concern	Solution
Analytics on labs and website	No available data to help improve security labs.	Google analytics to record traffic on website. Traffic on labs to be stored

		in database and then display on analytics page.
Users be able to create labs	Creation of labs aren't available to everyone	Approved users will be able to login and create labs.
Administrator be able to recover website	The admin may be accidently lockouted of website.	Admin has full access to databases, and ability to create multiple admin in case one account gets lock out another will still have access
Mobile Friendly	Current security lab portals are not very mobile friendly	Using latest technology and techniques to ensure website will be mobile friendly

3.5   Alternatives and Competition

Currently, SEED Labs is the most known alternative to Eureka Labs. SEED Labs are available to educators to use in the classroom. The labs are based on a virtual machine that is set up by the site's authors and has limited flexibility for differences in systems. Their virtual machine can be used on most computers. The website does not have a way to collaborate on new projects. Student users do not have the ability to see the lab on line from the site and they are dependent on their professional educator to give them the information needed to complete the lab.

4.   Product Overview

4.1   Product Perspective

The Eureka website will be a platform for posting wireless security labs. The website is independent and totally self-contained.

4.2   Summary of Capabilities

User	Capabilities
Admin will be able to verify and grant access to professors.	Admin will have full admin controls.
Professor will be able to host labs and view their analytics.	Professors profiles will be different from other users, allowing them to publish labs.
Professors can request solution for labs that aren't their own.	Data regarding lab usage and site visitation will be stored
Students will be able to search lab topic.	A global search bar will access a database to find related labs
Students be able to so feedback in discussion.	Professors will be able to give feedback to their students through their profiles.

4.3   Assumptions and Dependencies

System shall be backed up with all the content. Will have secure profiles for administrator and professors. System shall have a database containing labs posted.

4.4   Cost and pricing

Some implementations will require monthly fees in the future, such as AWS.

5. Product Features

5.1 Request Educator Account

Professors from other universities can request an account from the system by providing contact information along with a link to their webpage. The system will notify the admin about the request and provide contact information.

5.2 Approve Educator Account

After the admin reviews the contact information of the professor, he or she shall grant or deny access to the system. After approval of the account, the system shall enable the professor account.

5.3 Update Account Information

The system shall enable professors to update contact information.

5.4 Logon

Approved professor accounts and the admin users shall provide a valid ID and password for entry to the Eureka system. Users are assigned their ID and a temporary password after account request has been approved. The system shall enable a user to change their temporary password.

5.5 Create Labs

The system shall allow approved professor accounts to create their own labs. Each lab will include a background, instruction, pre assessment, and post assessment

5.6 Edit Labs

The system shall allow approved professor to update only labs that they created.

5.7 Lab Contact Information

The system shall provide the lab creator's contact information and it shall only be visible to other approved professors and admin accounts.

5.8 Request Solutions

The system shall provide a request for solutions on each lab. This button shall only visible to approved professor accounts and admins. The system shall automatically download solutions after request.

5.9 View Lab Analytics

The system shall enable the professor to view the analytics on their own lab. The system shall enable the admin users to view all the analytics for each lab.

5.10 Download Labs

The system shall allow any user to download a lab without having to login.

5.11 Lab Assessments

The system shall allow user to take a pre assessment quiz before downloading the lab. After completing the lab the system shall allow users to complete a post assessment.

5.12   Lab Discussion

The system shall allow users to provide comments and ask questions about a lab.

5.13   Search Lab Topics

The system shall allow users to search lab topics.

5.14   Disaster and Recovery

The system shall have and automatic backup all content and database.

6. Other Product Requirements

6.1 Applicable Standards

The Eureka Labs must comply with the existing standards in the field of online education portals.

6.2 System Requirements

The web server and database server will run on Ubuntu 18.04. Each server will have 100 gigabytes of storage, a minimum of one network connection, a minimum of one processor core, and a minimum of 4 gigabytes of random access memory.

6.3 Performance Requirements

None specified.

6.4 Environmental Requirements

The Eureka Labs must be compatible with any web browser or mobile device of the user's choice.