CS 24-324 Health Dashboard for a Line of Business
Project Proposal

Project Team

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Current State

Currently, platform stakeholders do not have an efficient way to check the status of their applications within their division because there is no application or service that shows this information in an efficient manner.

Problem to be Solved

The problem to be solved pertains to platform stakeholders and their ability to quickly determine what is not well managed, so that they can drive action for remediation. In other words, the lack of quickly accessible information pertaining to the health of each application being managed by a stakeholder/account executive, results in the inability to identify and solve issues that are affecting the overall health of the respective line of business.

These issues result in the need for an efficient and comprehensive dashboard to display the health of each application under Accountable Executive (AE).

Requirements

Business Requirements

- Improve the visibility of an application's security risks.
- Reduce time spent finding issues related to an application.
- Overall, increase the performance of an account executive's ability to manage applications.

Functional Requirements

- Create an intuitive dashboard for application health monitoring.
- List all applications with overall health using graphs.
- List security risk for each application (Low, Medium, High, Critical)
    - Graphical representation of risks by severity.
    - Graphical representation of the monthly totals.
    - Integrate with CVE to get an assessment of open-risk items.
    - Graphical representation of at least 6 months of data.
- List Incident Status for each application (Open, closed, resolution)

- Graphical representation of open incidents by severity.
- Graphical representation of the monthly totals.
- Graphical representation of at least 6 months of data.
- Machine learning algorithm to predict at least 6 months of future data, for at least one of the graphs.
- Provide a security assessment for each application (graphical and tabular view).
- List of exceptions for each application (Open, approved, pending, expiring).

Stakeholders

The stakeholders include the senior leadership teams at Capital One. More specifically, Directors or Senior Directors. These executives are responsible for managing different lines of business and monitoring the various applications within their division.

Proposed Solution

We propose the creation of a web application that will provide a dashboard that displays the overall health of applications for a given stakeholder. Upon login, the application will direct the user to a dashboard which allows the stakeholder to quickly see any applications that need their immediate attention so that they can drive action to fix any outstanding issues.

At the dashboard page, the user can select an application, allowing them to view the following:
- The security risks for each application in a graphical representation.
- The incidents associated with each application in a graphical representation.
- List of exceptions for each application.
- Overall security assessment of the application.

Resources

The resources we plan on using for the creation of this application include React as a front-end for the user-interface, Node.js for back-end development in conjunction with Lambda, and lastly DynamoDB for the database. Additional resources such as Chart.js, Fastify and other libraries may be used for various functionality as needed throughout development.

Constraints

Due to the short time allocation for this project, we may be constrained by time which could reduce some extra functionality of the application.