Problem

- Pinecrest PD currently relies on emails and bulletin boards to distribute BOLOs.
- Officers need a way to access BOLOs from the field.
- Officers need to be immediately notified when a BOLO is issued.

Solution

- Build a web application that serves as a central BOLO database.
- The web app will be usable from both desktop and mobile devices.
- The web app will send notifications to users on major BOLO events.
- The web app will be secure and scalable.

Current System

- Main functionality exists.
- Critical security features are missing.

Requirements

- Implement 2 Factor Authentication using Grid Cards.
- System should assign random values to new users’ Grid Cards.
- ROOT users can reset users’ Grid Cards in case they are lost.
- System should display Grid Cards in a printable format.

System Design

BOLO 9.0 uses a hybrid 3-tier and MVC (Model-View-Controller) architecture.

Implementation

- BOLO 9.0 runs on a Windows or Linux server.
- MongoDB is used for the database.
- Frontend uses HTML5, CSS3, Bootstrap, Pug, and Javascript.
- Node.js and Express to manage application logic, backend, and server requests.
- SendGrid used for email notifications.

Verification

- Manual testing was used to ensure the correctness of the program.
- The program was reviewed by Deputy Chief Jason Cohen to ensure it met the requirements.

Summary

- BOLO 9.0 improves security to meet national guidelines.
- Implemented 2 Factor Authentication.
- Provided for reset of lost Grid Cards.
- Presented Grid Cards in clean format for easy printing.

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