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BOLO 9.0

Student: Nicholas Ricknauth, Florida International University
Mentor: Jason Cohen, Pinecrest Police
Professor: Masoud Sadjadi, Florida International University

Problem
The Pinecrest Police Department has a system that allows its officers to check BOLO(Be On the Look Out) fliers 24/7 while on the move, to help crack down on crime. Currently, the system does not comply with FBI standards to access their data and there is no simple way to install the system on a server.

Solution
- Use NodeJS and Express to create a dual-authentication system that will comply with FBI standards
- Use MongoDB to create Grid Cards for each users for the dual-authentication login
- Use Inno Setup Installer to create an installation package for the system

Current System
- The system must have a Grid Card system included for a dual-authentication login
- Users do not have their own “Grid Card” to login
- BOLO 8.0 does not include an installation package to help with installing the system

Acknowledgement
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Requirements
- System must have a dual-authentication login to access the homepage of the website
- Dual authentication must meet with FBI standard (Grid Card System)
- All users, except for the root, must login a grid card
- System must validate the values for each user’s grid card when logging in
- Users on the server side of the web application can easily use the installation package to startup the system

System Design
BOLO 9.0 uses a 3-Tier architectural style and a Model-View-Controller design pattern:

Implementation
- BOLO 9.0 runs with Node.js and is able to on Windows platforms
- The webpages for the view, are created using pug scripting of html pages
- NodeJS and Express is used for the backend scripting of the system
- MongoDB is used to help store and access data in a database
- Inno Setup Installer is used to help create the installation package.

Verification
To verify the system for accuracy and to meet all the system requirements, unit tests were created. Each unit test was done manually to ensure accuracy and coverage.

Examples:
- user_grid_login
- root_grid_login

Object Design

Summary
BOLO 9.0 will allow the Pinecrest Police department to match FBI’s login standards so the can access the databases. Future groups will also be able to easily install and startup the system for future updates.

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