Recent Projects

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2 SUMMARY

Below are a few projects I have listed for easy reference. These projects are computer science focused as most of the major time intensive projects have been focused around my major. I have included a project in which I had to work in a group setting as well as a project that I worked on alone. Moreover, I have included projects I have worked on in my spare time, outside of school.
3 Virtual Case Wall

3.1 Virtual Case Wall Summary
Written in HTML, CSS, and JavaScript, the Virtual Case Wall is a Windows 10 Application that replaces the common “cork board” seen in detective movies/shows that connect criminals to events using strings. Utilizing the WinJS Windows Store App framework and Groovy on Grails, my partner and I developed an app specifically for the Windows Surface Pro III to analyze and generate relationships between known criminals to help shorten the time needed to solve cases.

3.2 Login Screen
Through the Grails Application, my partner and I were able to set up the back-end database using the Groovy on Grails tool suite. The database was populated with users with different privileges. Using this database, the login screen used the WinJS-specific HTTP request form to verify login credentials against the database. If the user was found, Grails returned a security token which is used throughout the application for all other HTTP requests to ensure each request is from a verified user.

3.3 Dashboard
The dashboard is the hub for the detective or analyst intended to use this application. This dashboard shows current criminals grouped together under case names while also showing important details about the news that day. After the groups of cases, there is a group for world events, showing important world events which could give clues about a criminal’s next move. There is also a group which will show popular hashtags and trending topics from social media which could assist in the catching of a criminal or the gathering of more intelligence.
3.4 **CRIMINAL INFORMATION SCREEN**

The information displayed on this screen is updated as soon as information is inputted into the database. The Google Maps section shows the locations the criminal was at. These coordinates, along with the points on the graph are all pulled from the database as well. The graph shows call/text/email/location events and plots them in chronological order. Analyst and detectives should be able to use this information to get an easy bird’s eye view of the criminal’s life very quickly.

3.5 **“DRAG PEOPLE HERE” PANE**

This feature of the Virtual Case Wall should be the most useful to analysts and detectives. The user is able to drag pictures of criminals from the dashboard into the “drag people here” pane in order to compare the activities and characteristics of two or more criminals. This automatic generation of relationships should extremely aid investigations that involve two or more criminals. It will also help uncover unforeseen relationships that may be hard to discover from general methods of investigation.
4 Talent Scheduler

The Timestamp Management System was created with the purpose of creating a graphic user interface, allowing the user the ability to collaborate with agents in scheduling magicians through a SQL database. The application was programmed to determine if all magicians are booked for a specific date. If so, the program will automatically place the customer on a waiting list. If another customer cancels an appointment, the application will allow the first person on the waiting list to assume the next appointed time for the available magician. Programmed in Java, this application utilizes a local Derby database within NetBeans in order to store all of the appointments and magician data.
5 Timestamp Management System

This program is written in C++ and implements class hierarchy and polymorphism in order to complete the tasks entered by the employee/manager. Uses an input file to read in a directory of employee timecards for a potential company. This program will allow input of hours to a certain employee, approve/disapprove of timecards by a manager, and paycheck print outs for all or a few employees.
6 DRAWING APPLICATION

This drawing application acts as a GUI application in Java that allows users to select different shapes from a drop down box and draw on a draw panel. The user has the option to use dashed lines, choose the width of the lines, and whether or not they want the shape to be filled. Moreover, the user can color shapes in gradient format, undo their last step or clear the draw panel.
The NIST 800-53 Revision 4 has 18 families, between 5 and 44 controls per family, and between 0 and 18 enhancements per control; in total, over 1,300 modules are included within this revision. When setting specific government IT infrastructures, the NIST 800-53 is referenced in order to keep the infrastructure compliant with the government’s guidelines. Determining which Amazon Web Service will satisfy a specific NIST control can be very time consuming. This website provides a user-friendly GUI to refine the directory of NIST controls down into only the relevant controls.

A user can search one of two ways, by AWS service or by a NIST 800-53 family. By selecting an AWS service from the left part of the website, the user will be able to see which modules that specific control satisfies across the whole NIST 800-53. Conversely, by searching for a specific NIST family, the user will be able to see all controls for that family and which AWS service satisfies them, if any exist. For further usability, a second drop down menu appears to present the user with the ability to refine the search down to a specific control and its enhancement. This makes it easier for the user to see exactly what they want versus having to go through at most 44 controls before finding the specific control they desire.
After researching online about HTML coding, I got extremely interested in developing a website for myself. I always wanted to make a website but never had the drive to do so until I researched the coding aspect. When developing my website, I did more intensive research into HTML and CSS in order to produce a simple website I could hose on my university’s servers. I decided to put my life’s journey and pertinent details about projects and my character as a whole. Through this process, I learned many interesting things such as coding my phone number into my HTML so that it cannot be read by simple web crawlers. This was my first project in HTML and CSS. It has provided me with the rudimentary knowledge necessary to tackle all of the other projects dealing with HTML and CSS.