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CIS-482: Senior Project I

Project Proposal

Summary

Dr. Matthew Mize is an Accounting professor in the Business department. He runs a business that provides an aluminum tire recycling service. They take in loads of aluminum tires, clean excess materials from them, such as iron, then melt them. Once this process is complete, they ship the aluminum wherever the customer wants it to go. Dr. Mize had a system that kept track of the status of each lot (i.e. one shipment) of aluminum, but it was only accessible on one computer and it did not quite meet his needs. He would like a system that keeps track of the status of each lot as it is processed. The company charges customers based on the amount of the aluminum (in pounds) and the amount changes between each state. He would also like the amount of aluminum to be recorded for each state so they can be looked up at any point. He would also like to be able to generate and print a report of the current status of each lot. Lastly, he asked for this system to be accessible through the Web and a way for customers to view the status of their aluminum in real-time.

Our approach to this problem requires two general items: a server for remote access and a database on the server to contain the data. We will build the database using a current database management system, such as MySQL. We will design a Web interface to interact with the database and create new customers to be included in the database. The server will have a login portal for administrator and customer access.

Timeline

Dev Cycle 1: Login page created and user submits any text to login. The Home page will display a taskbar with buttons that refer to each other page. Clicking the Add Lot button on the taskbar displays a dialog box.

Dev Cycle 2: Create search bars in the taskbar on each page that requires a search function. Label each page and put a Logout link in each taskbar.Implement search function on Lot History page to retrieve and display values from the database.

Dev Cycle 3: Implement Add Lot function to add values to database. Format a table for data retrieved in searches on Lot History page. Add company logo to login and taskbar. Logo in taskbar links to Home page.

Dev Cycle 4: Create Lots and Customers tables in the database. Alter Add Lot function to insert values into Lots table. Alter search function in Lot History to retrieve values from Lots table. Create Add Customer button that inserts values into the Customers table. Values from the Customers table are displayed in a table when Customers page loads.

Dev Cycle 5: Require all fields to be filled in Add Lot dialog. Add ability to sort the table on the Home page by lot, customer, status, and date added.

Dev Cycle 6: Create function to update the status and amount of a pallet on the Home and Lot History pages. Implement the search function on the Reports page to search for customer, lot, status, or date and display in a table. Add function to create another search to add to the table.

Dev Cycle 7: Implement login system for administrators. Make lots editable on the Lot History page and make customers editable on the Customers page.

Dev Cycle 8: Alter search function on the Lot History page to display the amount of each pallet at each step in the process. Create function to create a customer

login credentials on the Accounts page. Add option to create login credentials in the Add Customer dialog.

Dev Cycle 9: Create function on the Reports page to print the displayed table. Create a separate interface for users with customer credentials. Customers will only be able to view (and not modify) data associated with lots that they own.

Dev Cycle 10: Buffer room for additions, modifications, or setbacks. Possibly improve graphics.

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Project Outline

The proposed system is a web-based database that contains information regarding customer materials. The primary attributes of the database will include Customer, Status, Amount, and Lot (not necessarily in that order). The status attribute will be one of the following at a given time: Dirty, Clean, Melted/Finished. The current status of each lot will be displayed, but the system will keep track of each previous value in a separate table that is accessible at any time. A report of the current values for each lot will be requestable. Each table will be sortable by Customer, Status, and Lot. A login portal will be created to allow for administrative access from anywhere connected to the internet. An administrator may create logins for customers to view the status of their inventory in real time. Any of these requirements can be altered and additional requirements may be added at the request of our client, Dr. Matthew Mize.

By signing this, you agree to allow us to design and implement this system and agree to meet with us regularly to discuss the requirements of the system.

X_____ _____

Signature Date

System Requirements

I. Functional:

a. New customers can be added

b. Lots and their pallets can be added to the database, associated with customer, status, and amount

c. The status and amount of a lot can be updated

d. A reports can be generated based on customer, lot, status, or date

e. Customer acounts can be created

II. Non-functional:

a. The database is accessible over the Web

b. As the status and amount attributes are updated, separate records are kept for the amount of each state (e.g. if a lot has attributes “Dirty, 40000” and is updated to “Clean, 39500”, the amount of the lot when it was “Dirty” is kept in another table)

c. The database can be sorted by customer, lot, status, or date

d. Customers only see the status of their lots and cannot modify them

Design

The Home page will display a table of the current status of each lot still in inventory (not GONE) and the user can add new lots from that page. Lot pallets will have a status and amount that can be updated. Each page will have a taskbar for simple navigation between Home (the logo is the link), Lot History, Reports, Customers, and Accounts. The Lot History page will allow the user to search for a customer or lot and display all amounts for each status of all lots and pallets associated with the search. Lots and pallets will be editable on this page. The Reports page will allow the user to search for one or more lots, customers, statuses, or dates and print a report of the search. The Customers page will display each customer in the database and allow adding, editing, and removing of customer data. The accounts page will contain credential information for each admin and customer. Admins can create accounts for any customer, remove accounts, and see and change passwords. Customers will only have access to the Home, Lot History, and Reports pages and will only see lots they own.

Testing

We will primarily use Snaptest to create and run automated tests. Snaptests provides a framework to test navigation between pages, interacting with the user interface, and inputting and retrieving data from the database.