To: Dr Hadimlioglu
From: COSC 3324-W01 Team 2
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Re: HazMat Inventory system requirements doc

Hazardous Materials Program

Develop a hierarchal program utilizing OOP to serve as a one-stop educational and logging resource for an employer in the management of hazardous materials from initial intake through use and disposal of waste material and provide a ready reference system to the current safety guidelines for materials in the inventory.

Development will focus on three main sub-projects, the personnel aspect creating a hierarchy of access and available actions, mitigation of conflicting storage methods for different hazardous materials and lastly the actual inventory of hazardous substances.

The delivered product will be limited in scope but will demonstrate the general concept as well as potential scalability with integration into a true database system being the next evolution beyond proof of concept.

General requirements:

1. Hazardous material (Haz-Mat) 'cradle to grave' inventory and issue system with integrated safety data access and accident reporting system.
    a. Customers: haz-mat manager, haz-mat user, haz-mat issuer, haz-mat cleaner.
    b. Storage requirements: flammable, reactive, radioactive,
    c. Hazardous materials classes: explosive, gases, flammable or combustible liquids, flammable solids, oxidizers, toxic, radioactive, corrosive, misc
2. Tasks:
    a. Take in new inventory.
    b. Track and specify safe storage available for new inventory.
    c. Issue current inventory.
    d. Issue relevant safety reference for current issuance.
    e. Receive haz-mat waste and inventory for disposal.
    f. Track and specify safe storage available for haz-mat waste.
    g. Receive haz-mat accident information for issuance of proper clean up procedures, reporting requirements and issuance of clean up material.
3. Interface:
    a. Card reader for positive identification of user.
    b. Display relevant information to user.
    c. Receive input from keyboard.
    d. Print physical release form for actual physical transfer of material.
    e. Scanner stores electronic copy of signed documents in history of individual materials to ensure 'cradle to grave' tracking requirement fulfillment.
4. Inventory will be maintained day to day with system initially starting at a zero-inventory content.

5. Session expectations:
    a. User verified by access card.
    b. User makes request for material.
    c. System determines if user is authorized to use material and if available.
    d. If issue available and authorized print the relevant authorization for physical issue of material.
    e. Earmark storage and expectation of return of material and any make necessary disposal earmarks as well.
    f. Receive haz-mat waste and document storage and preparation for disposal.
    g. Unless authorized for overnight issue make report of missing inventory for contact and retrieval before close of business for user haz-mat issued to end of workday.
    h. Close accounts at close of business and produce report of any discrepancies for investigation by haz-mat manager.
6. Permissions:
    a. Managers can create user accounts, take in inventory, monitor entire inventory, receive these reports: discrepancies, material needing resupply, material awaiting disposal, reported accidents and can close accident reports.
    b. Users can request material, request return of material, request turn in of haz-mat waste and can request inventory of materials they are authorized use of.
    c. Issuer can receive new inventory, issue authorized material, issue haz-mat waste for disposal, receive these reports: material requiring resupply, material requiring disposal, current inventory on hand.
    d. Cleaner can receive clean up material, request disposal of haz-mat, receive reports of haz-mat accidents and report of proper clean up methodology and make report of accident clean up.