Mickey Mouse's Laundry House

System Specification Document
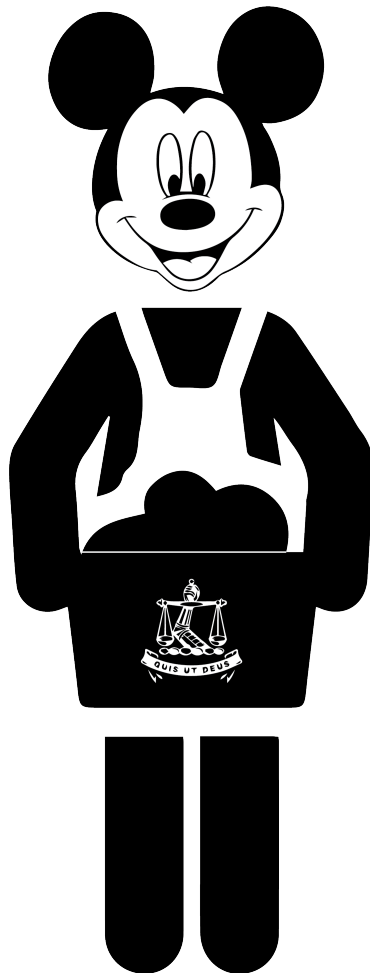
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Introduction

My program's goal is to help streamline the Michaelhouse laundry department's system in order to help relieve pressure of handling laundry from over 550 boys. After interviews with the laundry's manager and internal staff, I have gained insight into the problems at hand and where IT systems can be put in place to make their job easier and more manageable. I will be coding and designing every element of the program myself for the duration of my matric year. By the end I hope to have a fully functional solution that can be used.

Summary

The laundry has long been in need of a clever, efficient but yet practical program to manage the following three major elements of its operation:

- <u>Collection of info</u> as to what boys are handing in
- <u>Tracking of staff</u> to record who handles which boy's laundry and who is working the most/least
- <u>Control System</u> whereby boys tally each item that they handed in and approve that they got the right number of clothes back
- <u>Staff Management</u> where new staff members can be added and their name, surname, email, admin number, password and authorization status are logged
- <u>Boys Management</u> where new boys can be added and their name, surname, house, block, email, password and admin number are logged

A further breakdown of each element and how I propose to accommodate it is given below.

Collection of Info

One of the most important aspects of dealing with the school's laundry is being able to record exactly what is handed in by the boys. Currently boys are given paper slips on which they write what they hand in and then place the slip inside their laundry bag, in and amongst their dirty clothes. This technique does not work as the slip is often lost, hard to find, damaged and the boys each have their own way for writing how many items they hand in and often their handwriting is illegible. To solve this issue, my program shall display the standard laundry slip template where boys will then digitally enter in what they shall be handing in. By doing this it eliminates poor handwriting, loss/damage of the slip, efficiently stores the info for control purposes and saves an immense amount of paper. The info that will be gathered is the boy's admin/laundry number, items handed in and the date the laundry was handed in.

Tracking of Staff

Once laundry is collected at the facility a certain staff member is allocated to handle that laundry. This needs to be recorded and is crucial as that staff member then becomes liable for any lost property, damage or incorrect info given as to the contents of the laundry bag. Just like the boys, these staff are given their own admin number and will use this number to identify themselves so that they can be contacted if there is any discrepancy between what was handed in and what was received. It is also useful to track how many laundry slips are handled by each staff member as this info is used to track performance (for bonuses or warnings).

Control System

To make sure staff at the laundry cannot approve of items handed in and then steal them, the boys are required to "tally up" or approve that they received all their items. By having this control in place, you close the full loop, whereby both boys and the staff have then verified all items and you get a complete "Proof of Work" check.

Staff Management

This is used purely for keeping track of all the laundry staff. It can be used to see, add, delete or update any staff members details.

Boys Management

This is used purely for keeping track of all the boys. It can be used to see, add, delete or update any staff members details.

Specifications of Program Functions

Landing Screen

- Login screen is shown
  - Check username/password
  - Display error if incorrect
  - Go to either Boy/Staff Member/Admin section depending on the status of the user as well as if password is correct

If Admin logs in:

- "Boys management", "Staff Management" and "Stats" buttons are shown after authentication
- User selects either of the 3
- Depending on what is selected the user can then
  - Add/delete/edit/see the details of a boy
  - Add/delete/edit/see the details of a staff member
  - View crucial info about how many laundry are currently at the laundry, house with most laundry in, house with least laundry in, staff member currently processing the most slips, staff member currently processing least slips and the total number of slips in for each house

If Boy logs in:

- "Hand-in laundry" & "Collect laundry" buttons are shown
  - If "hand-in laundry" is selected:
    - A list of all items of possible clothing are shown

- o The user then selects how many items of each they are handing in
- o User either submits or cancels the laundry 'slip'
- o After submitted the user is notified of success and then logged out
- If "Collect laundry" is selected:
  - o A list of uncollected laundry slips is shown
  - o User enters the laundry slip number they are collecting
  - o A list of all the items they handed in are displayed
  - o User systematically "tallys up" all items recieved
  - o After tallying the items, the user finalizes their collection and if they tallied up fewer items then they handed in a notification to ask the laundry manager about it is shown

Specifications of User Interface

Landing Screen
- This login screen is to look as simple as possible
- 2 text inputs are displayed:
  - o Admin number field
  - o Password
- A login button is directly below these fields
- If an error is needed to be displayed it will appear in a popup notification box
- All these elements are centered

Main screen for admin section
- After passing the login screen it displays 3 icons:
  - o Boys Management
  - o Staff Management
  - o Stats
- All 3 are centered, very large and clear

Boys Management Screen (Part of Admin section)

- The user is displayed with 3 buttons:
    - Add new boy
    - Update boy (can also delete a boy from here)
    - Find boy
- If "Add boy" is clicked the following 5 fields appear:
    - Name (text input)
    - Surname (text input)
    - Admin number (4-digit number)
    - Email (text input)
    - House (drop-down)
    - Block (drop-down)

  Below these fields is an "Add new boy" button
- If "Find Boy" is clicked:
    - The user is taken to a screen where they can choose a search criterion from a dropdown menu and enter a search based on this criteria
    - They can then click the find button to the right, which will display all search results in the box below the search bar
- If "Update boy" is clicked the following is presented:
    - A text field to enter the admin number
    - An update button
    - A remove button

  Depending on the selection, either the boy is removed and a dialog box is shown confirming deletion, or the user is take to a similar looking screen as that of the "Add New Boy" screen – where they can amend the details of the boy

Staff Management Screen (Part of Admin section)

- The user is displayed with 3 buttons:
    - Add new staff member
    - Update staff member (also allows deletion)
    - Find Staff member

  At the bottom there is a "Back" and "logout" button to return to the previous screen or log out

- If "Add Staff member" is clicked the following 5 fields appear:
    - Name (text input)
    - Surname (text input)
    - Admin number (4-digit number)
    - Email (text input)

  Below all these fields is an "Add new member" button

At the bottom there is a "Back" and "logout" button to return to the previous screen or log out

- If "Update Staff member" is clicked then the user is taken to a similar screen as that of the "add new staff member" screen – where they can then amend the staff members details

  At the bottom there is a "Back" and "logout" button to return to the previous screen or log out

- If "Find staff members(s)" is clicked:
    - The user is taken to a screen where they can choose a search criterion from a dropdown menu and enter a search based on this criteria
    - They can then click the find button to the right, which will display all search results in the box below the search bar

At the bottom there is a "Back" and "logout" button to return to the previous screen or log out

Stats Screen (Part of Admin section)
- This brings up a clear representation of the following stats:
    - 'Number of laundry slips currently at laundry'
    - 'House with most laundry in',
    - 'Staff member currently processing most laundry in'
    - 'Staff member currently processing least laundry in'
    - Number of slips in for each house – listed below the above stats

> After these stats have been shown, at the bottom there is a
> "Back" and "logout" button to return to the admin screen or
> log out

Main screen for "Boy" section

- After passing the login screen it displays 2 icons:
    - New Slip
    - Find Slip
- Both are centered, very large and clear

New Slip Screen (part of Boy section)

- A full list of all the different laundry items that can be sent in –
  with options to select number of items, whether they need to
  be repaired or marked is displayed
- Too the right is a "Finalize" and "Clear" option
- Once finalized a notification in a box is shown to alert the user
  of a successful slip
- In this box is a "Ok" button that once pressed logs out the user
  and goes back to the landing screen

Collect laundry Screen (part of Boy section)

- A short list of any laundry slips that haven't been collected is
  shown in the middle of the screen in a box
- The list simply has 3 details:
    - The date (of when it was handed in) on the left
    - The Slip ID
    - The admin number of the staff member who processed it
- Below this box is an area to enter the slip id of the laundry slip
  you want to collect as well as a button to do so
- When this is clicked, the user is taken to the "Confirm Items"
  screen

Confirm Items Screen (part of collect laundry screen)

- On the left, there is a table that displays all the items handed in
  as well as spinners for the user to tally up their items

- To the right is a "Confirm" and "Reset" button
    - If reset is clicked – the spinners are set back to their expected values
- After clicking confirm, a notification in a box is given to show that the collection was recorded
    - If too few items were entered the user is notified to contact management
    - Else, a success message is shown

Specifications of help

- Each entry or field will have a short description that will appear when hovering over it
- Clear, understandable labels will be placed next to important components to assist the user
- For complex pages or functions a description will be given in light grey below or next to the area of complication
- There will also be an in depth help document that will act as a last resort

Specifications of Data Storage

More in depth detail as to how the data will be stored is found in the database design, the following info is a basic guideline.

- Admin, Staff, boys, laundry slips and laundry items will be stored in a database
- Admin and Staff will have fields for:
    - Name (String)
    - Surname (String)
    - Admin number (Integer)
    - Password (String)
    - Email (String)
    - Admin (bit)
- Boys will have fields for:
    - Name (String)
    - Surname (String)

- o Admin number (Integer)
- o House (String)
- o Block (String)
- o Email (String)
- Laundry Slips will have fields for:
  - o Slip ID (autonumber)
  - o Boy Admin Number (Integer)
  - o Staff Admin Number (Integer)
  - o Date (date)
  - o Status (Integer)
- Laundry Items will have fields for:
  - o Item ID (Integer)
  - o Description (String)
  - o Category (String)
- Laundry Slip Items will have fields for:
  - o Slip item ID (Integer)
  - o Item ID (Integer)
  - o Slip ID (Integer)
  - o Quantity (Integer)
- Admin and staff will be in the same table as they are both staff members, yet admin's have escalated privileges
- If a staff member's admin value is 1 then they are an admin otherwise they are operation staff not management

Hardware Requirements

Minimum:

Hardware Requirements

- RAM: 1gb (2gb recommended)
- Secondary storage: 5gb free space
- Processor: 2.0GHz recommended
- Mouse/Touchscreen
- Keyboard

Software Requirements

- Windows XP or higher; Mac OS X Mountain Lion or higher
- 32 or 64-bit architecture
- MySQL & Java SDK