

Team4_phase1_report

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Data types

- Users

Attribute	Data Type	Nullable
UserName	Varchar(12)	Not Null
DisplayName	Varchar(30)	Not Null
Password	Varchar(30)	Not Null

- CimtUser

Attribute	Data Type	Nullable
UserName	Varchar(12)	Not Null
PhoneNumber	Varchar(15)	Not Null

- ResourceProvider

Attribute	Data Type	Nullable
UserName	Varchar(12)	Not Null
Password	Varchar(30)	Not Null
Address	Varchar(100)	Not Null

- Administrator

Attribute	Data Type	Nullable
UserName	Varchar(12)	Not Null
Email	Varchar(320)	Not Null

- Resource

Attribute	Data Type	Nullable
ResourceId	Int Unsigned	Not Null
Username	Varchar(15)	Not Null
ResourceName	Varchar(30)	Not Null
PrimaryFunction	SmallInt Unsigned	Not Null
SecondaryFunction	SmallInt Unsigned	Null
Description	Varchar(50)	Null
Distance	Decimal(5,1)	Null
Cost	Decimal(10,2)	Not Null
UnitId	SmallInt Unsigned	Not Null

- Resource_Functions

Attribute	Data Type	Nullable
FunctionId	SmallInt Unsigned	Not Null
Description	Varchar(50)	Not Null

- Resource_Capabilities

Attribute	Data Type	Nullable
ResourceId	Int Unsigned	Not Null
Capability	Varchar(20)	Not Null

- Resource_Units

Attribute	Data Type	Nullable
UnitId	SmallInt Unsigned	Not Null
DisplayName	Varchar(10)	Not Null

- Incident

Attribute	Data Type	Nullable
IncidentId	Varchar(10)	Not Null
CategoryId	Varchar(5)	Not Null
IncidentDate	Date	Not Null
Description	Varchar(255)	Not Null

- Category

Attribute	Data Type	Nullable
CategoryId	Varchar(5)	Not Null
CategoryType	Varchar(30)	Not Null
Number	Int Unsigned	Not Null

Business constraints

- A resource is available if it is not currently being used to respond to an incident.
- New resources entered into the system are available by default.
- In no circumstance should the system allow a resource that is currently in use be deployed to respond to another incident.
- A resource may be used for any incident regardless of it's primary and secondary function.
- Once an incident is resolved, the status of any resource being used is set to available.
- The system must prevent users from creating multiple incidents for the same incident.

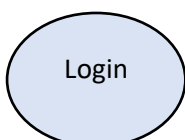
Markup Annotations

- **Bold Underline: Form.**
- ***Bold Italics: Buttons / Input Fields.***
- **Bold: Task.**
- *Italics: Form Input fields / Column names in tabulated form.*
- \$XYZ: Database field/column named 'XYZ'.

Task decomposition with abstract code:

Login

Task Decomposition:

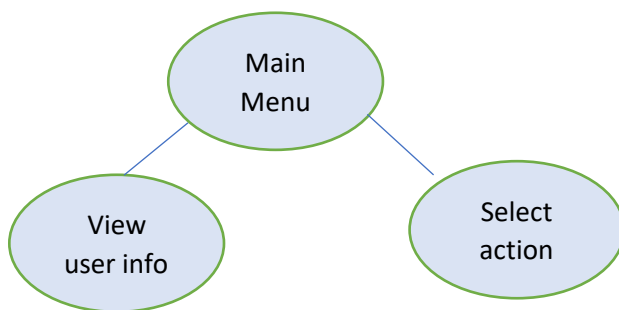


Abstract Code:

- User enters *Username* ('\$Username') and *Password* ('\$Password') input fields.
- If data validation is successful for both *Username* and *Password* input fields, then:
- When **Login** button is clicked:
 - If *Username* exists but *Password* != '\$Password', or *Username* is not found:
 - Go back to **Login** form, with error message
 - Else, log user in and go to **Main Menu** form.
 - Else, *Username* and *Password* input fields are invalid, display **Login** form, with error message.

Main Menu

Task Decomposition:



Abstract Code:

- User successfully logged in from the Login

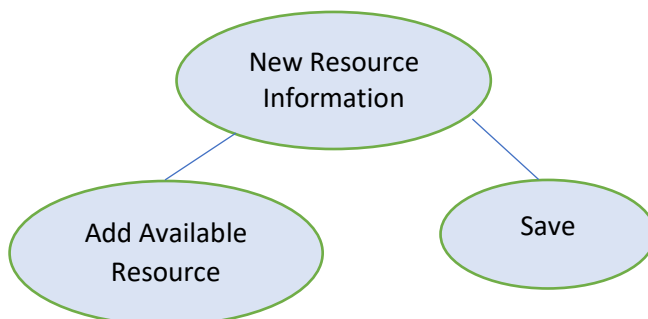
- Run the view user info task by querying the user to display the user's '\$Name' and type:
 - If type = cimt_user", show the user's '\$phone_number'.
 - If type = "resource_provider", show the '\$address'.
 - If type = "system administrator", show "email address".
- Run the **select action** task to display "Add Resource", "Add Emergency Incident", "Search Resources", "Resource Status", and "Resource Report" links.

Upon clicking:

- **Add Resource** button - Jump to **Add Resource** task.
 - **Add Emergency Incident** button - Jump to **Add Emergency Incident** task
 - **Search Resources** button - Jump to **Search Resources** task.
 - **Resource Status** button - Jump to **Resource Status** task.
 - **Resource Report** button - Jump to **Resource Report** task.
 - **Exit** button - Invalidate login session and go back to **Login** form.
- Upon clicking "x" cross sign on **Main Menu** form:
 - Exit the current form, and take user back to the **Login** form.

New Resource Information

Task Decomposition:

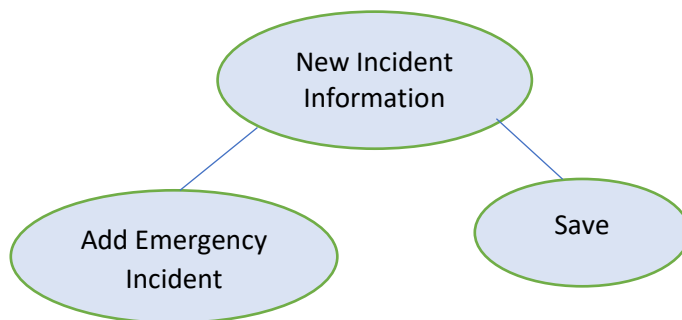


Abstract Code:

- User enters *Resource Name* ('\$resource_name'), *Primary Function* ('\$primary_function'), *Secondary Functions* ('\$secondary_function'), *Description* ('\$description'), *Capabilities* ('\$capability'), *Distance from PCC* ('\$distance'), *Cost* ('\$cost'), *Per Unit* ('\$unit') input fields.
- When **Save** button is clicked:
 - Run the Save Resource task to display the user's ('\$resource_id') in the Resource ID field, and display the "Resource saved".
- When **Cancel** button is clicked:
 - Exit the current form, and take user back to the **Main Menu** form.
- Upon clicking "x" cross sign on Add Available Resource form:
 - discard the current form, and take user to another **Add Available Resource** form.

New Incident Information

Task Decomposition:



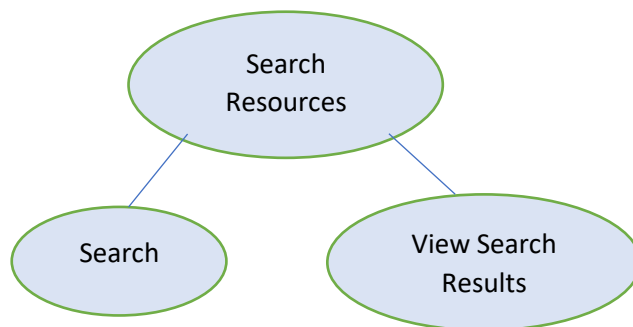
Abstract Code:

- User enters *Category* ('\$category'), *Date* ('\$date'), *Description* ('\$description') input fields.
- When **Save** button is clicked:
 - Run the **Save Incident** task to display the user's ('\$incident_id') in the Incident ID field, and display the "Incident saved".

- When **Cancel** button is clicked:
 - Exit the current form, and take user back to the **Main Menu** form.
- Upon clicking “x” cross sign on Add Emergency Incident form:
 - discard the current form, and take user to another **Add Emergency Incident** form.

Search Results

Task Decomposition:



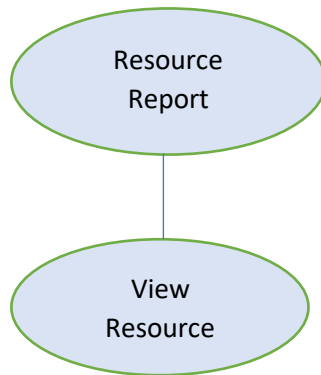
Abstract Code:

- User enters *Keyword* ('\$keyword'), Primary Function ('\$primary_function'), Incident ('\$incident'), Distance (\$distance') input fields.
- When **Search** button is clicked:
 - Run the **Search Resources** task to display the user's ('\$resource_id'), ('\$resource_name'), ('\$owner'), ('\$cost'), ('\$unit'), (\$distance')
- When **Cancel** button is clicked:
 - Exit the current form, and take user back to the **Main Menu** form.
- Upon clicking “x” cross sign on **Search Resources** form:

- Discard both Search Resources and Search Results, and take user to a new Search Resources form.

Resource Report

Task Decomposition:

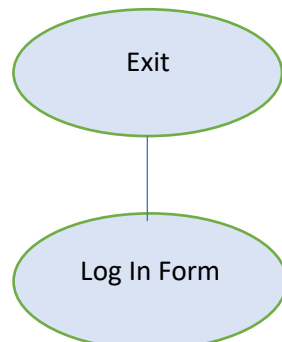


Abstract Code:

- Run the view resource report task to display ('\$primary_function_#'), ('\$primary_function'), ('\$total_resources')
- Upon clicking "x" cross sign on Main Menu form:
 - Exit the current form, and take user back to the **Login** form.

Exit

Task Decomposition:



Abstract Code:

- When ***Exit*** button is clicked:
 - Logging the user out of the system, taking the user back to the **Login** form.