Task Management System

Java Programming
CSCI – 2210 – 01

TEAM WORA

University of
New Haven

TAGLIATELA
COLLEGE OF ENGINEERING

Spring 2021

Team Members & Roles

- **Team Name**

  WORA

- **Team Members**

  1. Ahmed Muntasir Hossain — ahoss1@unh.newhaven.edu (Team Head)
  2. Emily R. Carlow — ecarl3@unh.newhaven.edu (Team Member)
  3. Jake E. Sullivan — jsull10@unh.newhaven.edu (Team Member)
  4. Anta R. Fall — afall2@unh.newhaven.edu (Team Member)
  5. Nathan A. Platt — nplat2@unh.newhaven.edu (Team Member)

- **Roles of Team Members**

Each team member contributed equally towards the following roles:
Programmer, Researcher, UX/UI Designer, Report Writer, Create Task Page, Search for Tasks Page, and Calendar Page

Specific Contributions to the Application

1. Ahmed Muntasir Hossain: Database Administrator, User Menu, Tasks for this Week, New User List
2. Emily R. Carlow: User Sign Up and Log in, Create New Admin Account, Approved User List
3. Anta R. Fall: Admin Sign Up and Log in
4. Jake E. Sullivan: Database Administrator, Exit
5. Nathan A. Platt: Update Admin Account, Error Screen

Introduction

- The Task Management System (TMS) is an application that manages and holds a record of the personal tasks of different users

- TMS displays a calendar for the desired week, month, or year

- Using our application, the users can add, edit, and delete tasks, see their individual calendar data, and update them

The application has two users:

1. Admin
2. General User

Admin

- The admin logs in using their credentials (username and password) through the admin portal.

The admin is displayed a menu consisting of the following options:

1. New User List: Displays the username and password of new users

2. Approved User List: Displays the username and password of approved users

3. Create New Admin Account: Creates an admin account for a new admin

4. Update Admin Account: Updates the personal login information of an admin

5. Log Out: Logs out of the portal and returns the admin to the log in page

Admin Login Flow Chart
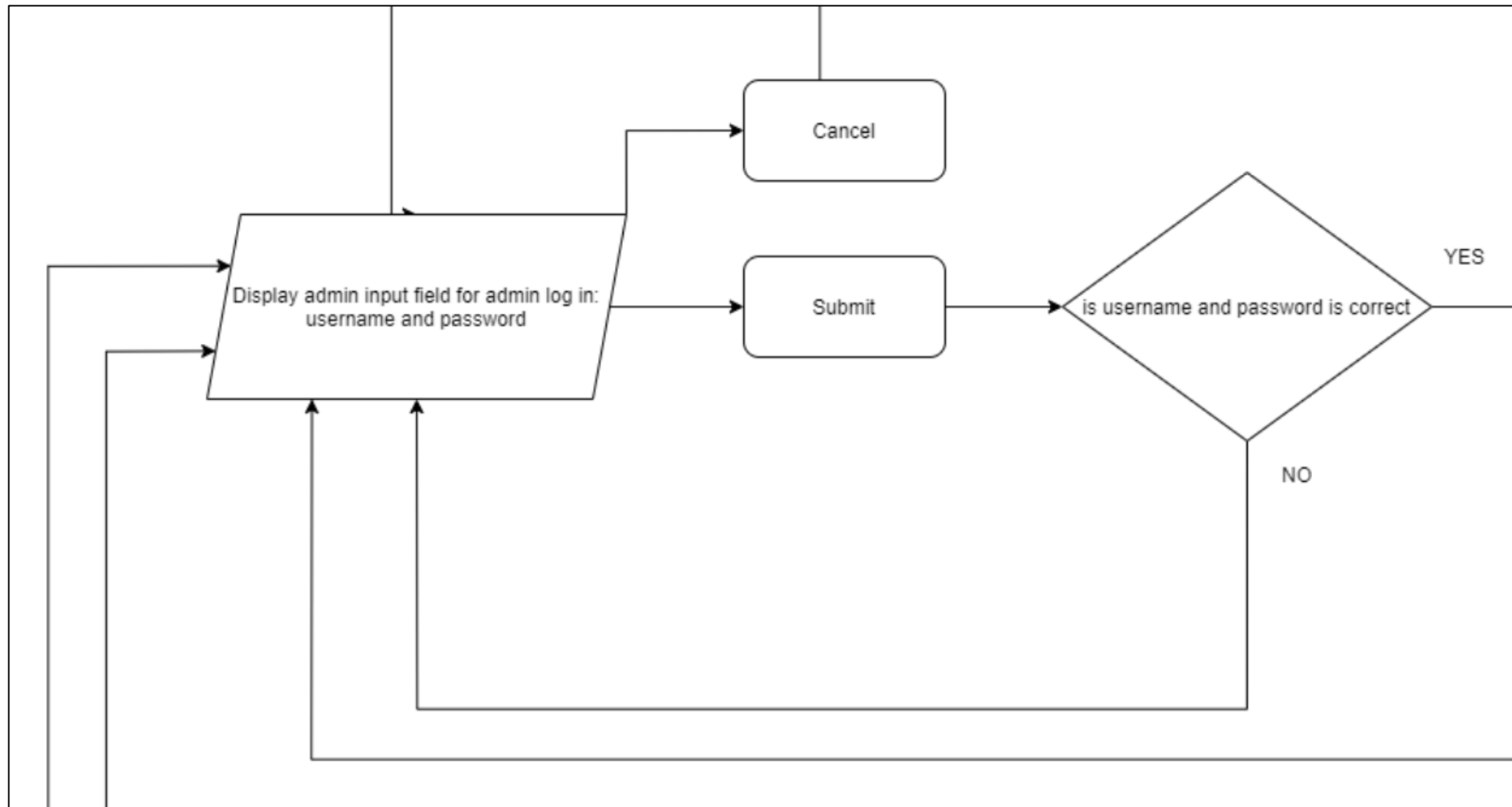
Fig 1: Admin Login Flow Chart

Admin Menu Flow Chart
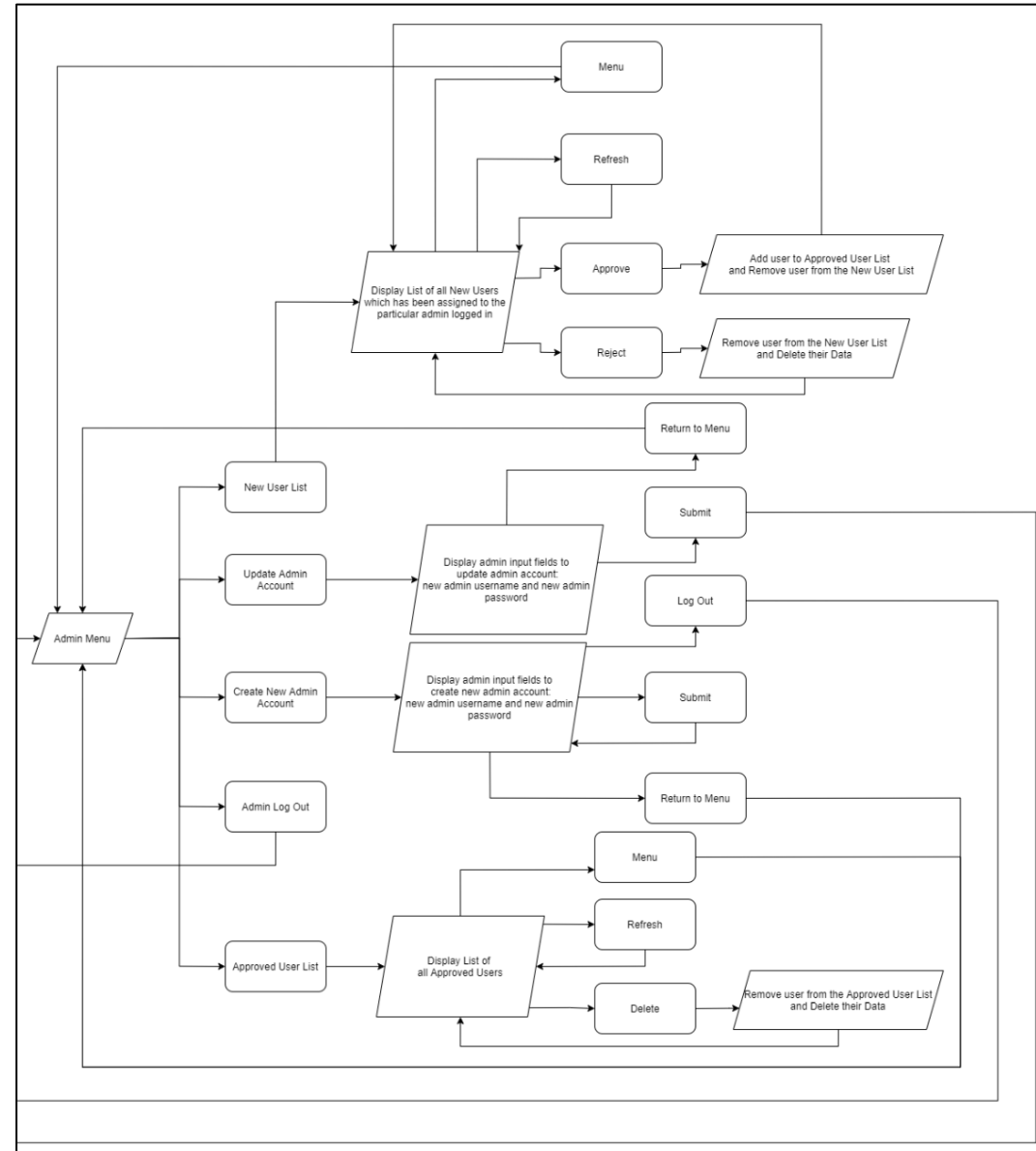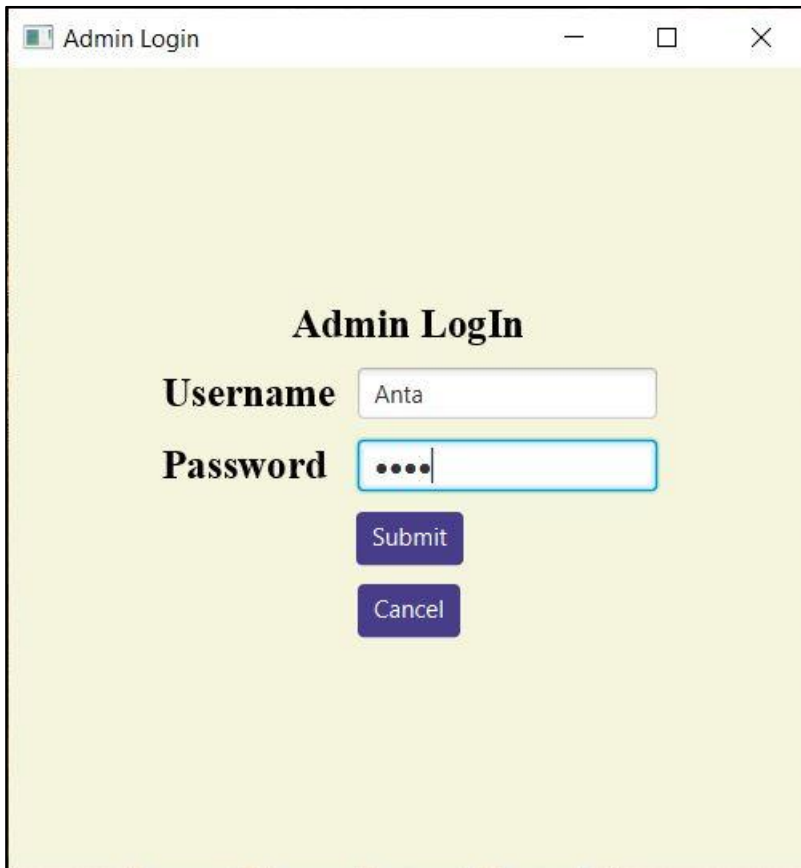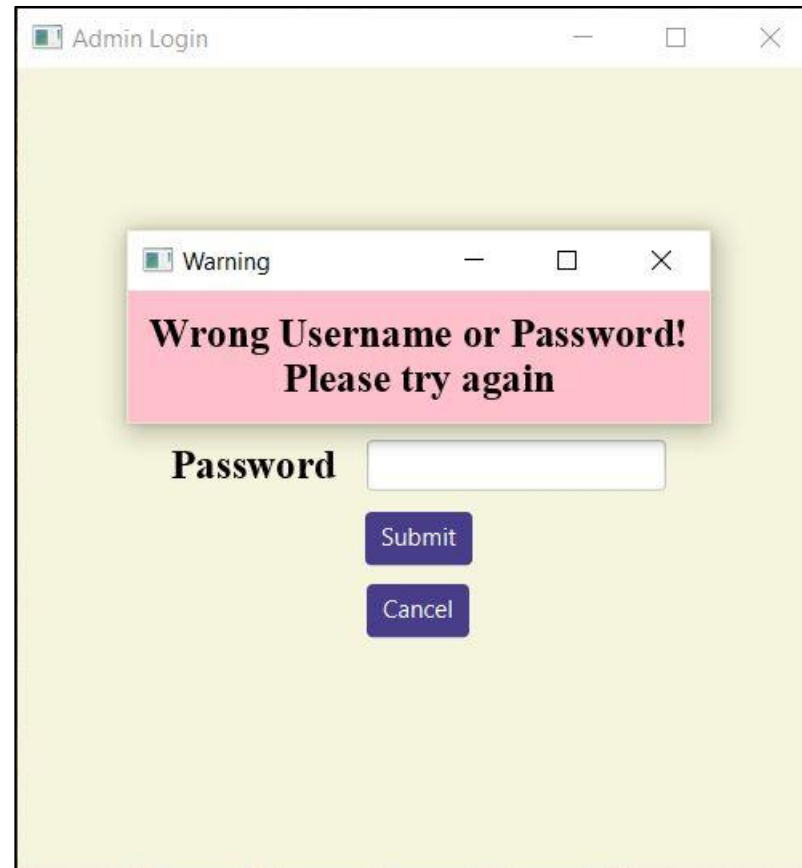
Fig 2: Admin Menu Flow Chart

Admin Login, Warning Message, & Admin Menu
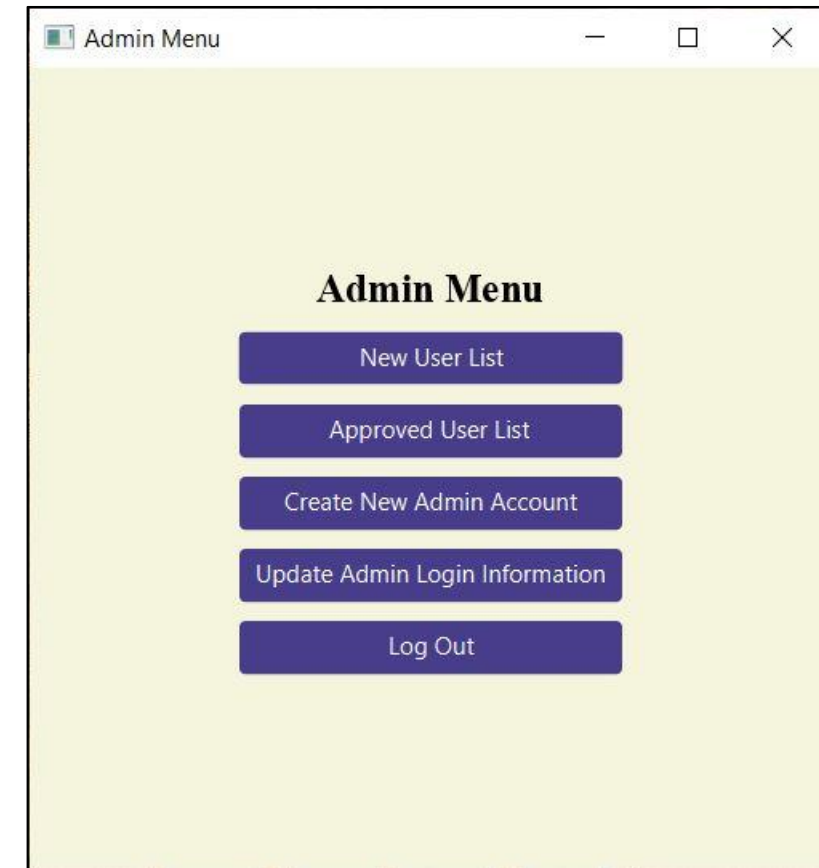
Fig 3: Admin Login GUI

Fig 4: Warning Message during Admin Login GUI

Fig 5: Admin Menu GUI

New User List & Approved User List

Fig 6: New User List GUI

Fig 7: Approved User List GUI

Create New Admin & Update Admin Pages

Fig 8: Create New Admin Account GUI

Fig 9: Update Admin Account GUI

General User

- The general user creates a new account
- The new user is unable to log into TMS until they are approved by the admin
- After an admin approves their account, from the new user list in the Admin Portal, the user logs into TMS.

The user is displayed a menu consisting of the following options:

1. Calendar:
   - Displays the current date, month, and year in a calendar format.
   - The user has the option to search for a particular month and year
   - The search will output a calendar of the month and year inputted by the user.

2. Tasks for this Week:
   - Displays a table listing all the tasks that the user has for this week (7 days) starting from the current local date

General User (cont.)

3. Create New Task:
   - The user inputs the details for a task and adds the task to TMS
   - Details include title, start date, start time, end date, end time, and description

4. Search for Task:
   - Search for a particular task by inputting data in the following fields: title, start date, start time, end date, end time, duration, and description.
   - Based on the user's input, TMS outputs all the tasks that match with the user's request in a tabular form.

5. Delete User:
   - Removes their username, password, and corresponding recorded data from TMS

6. Log Out:
   - Logs Out of the portal and returns the user to the user login page.

7. Exit:
   - Thanks, the user for using TMS and closes the application
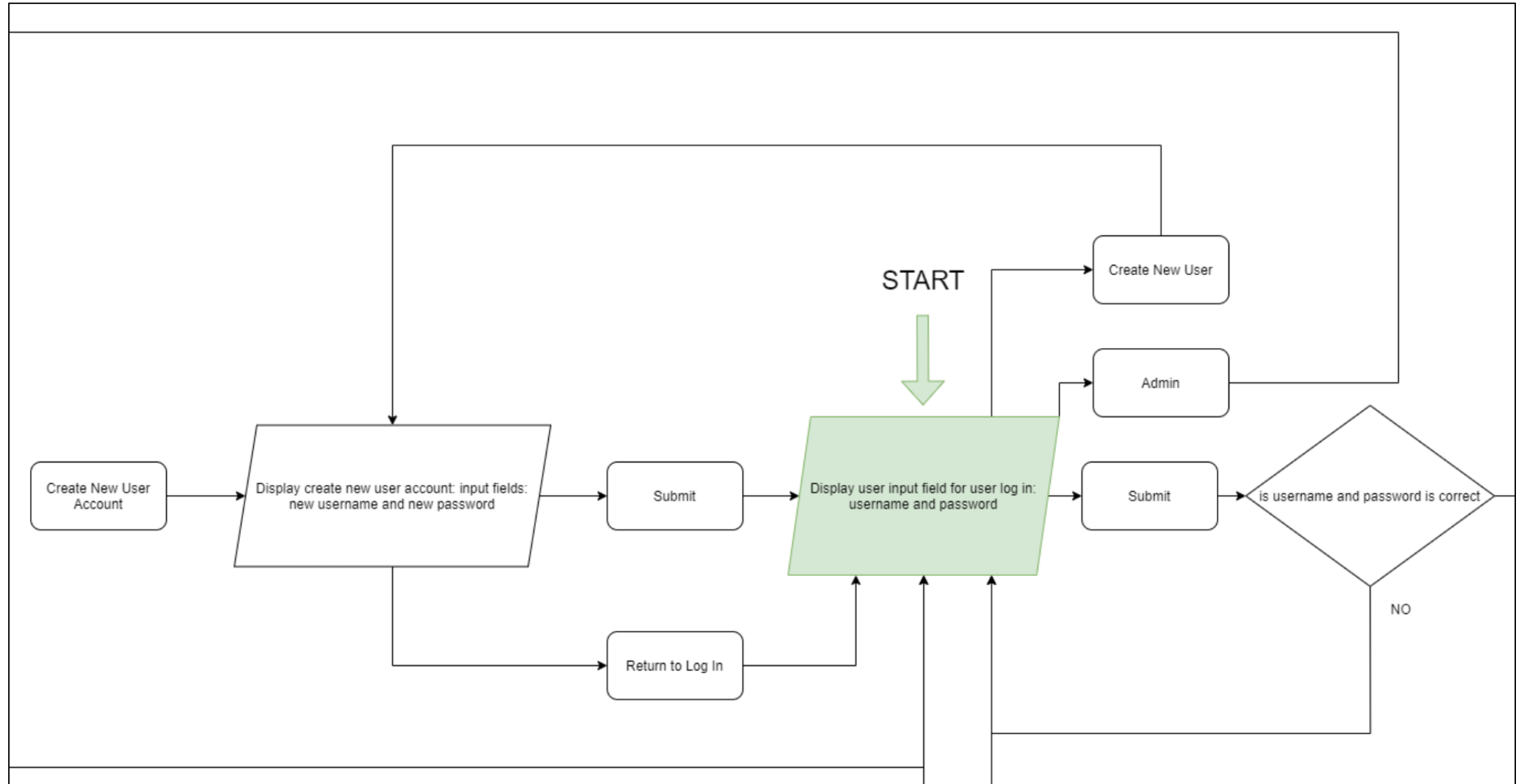
User Login & Create New User Flow Chart

Fig 10: User Login & Create New User Flow Chart
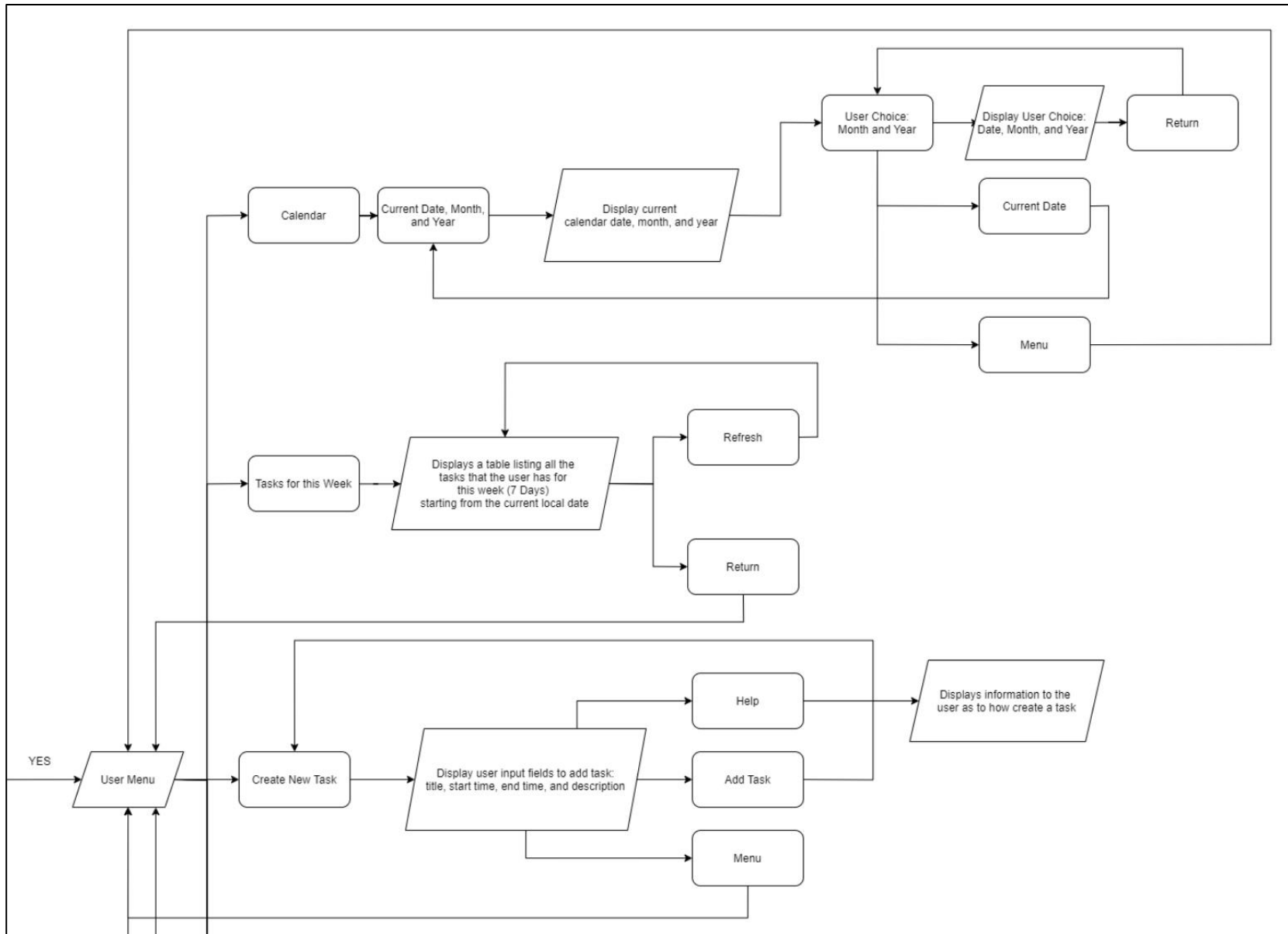
User Menu Flow Chart

Fig 11: User Menu Flow Chart
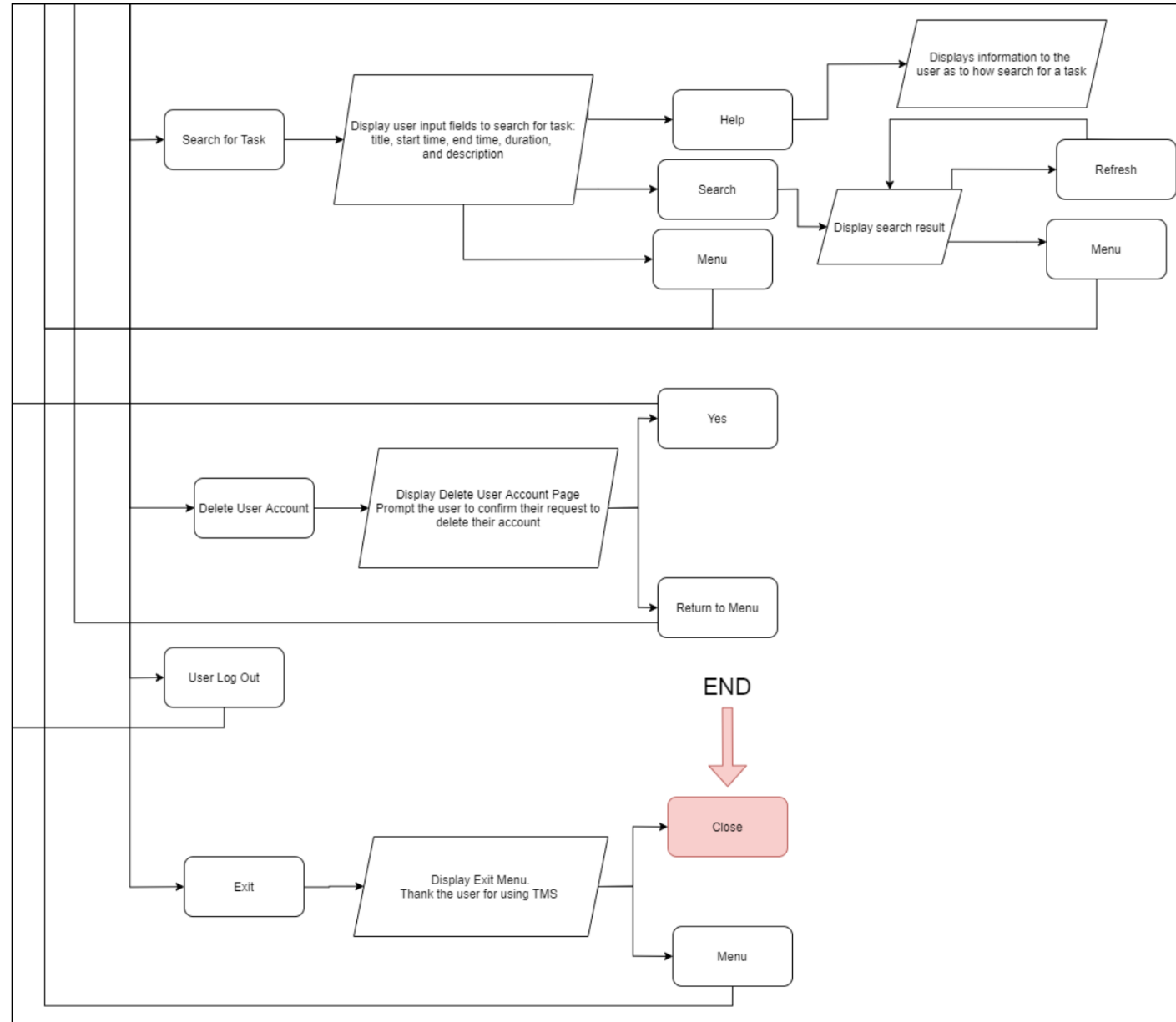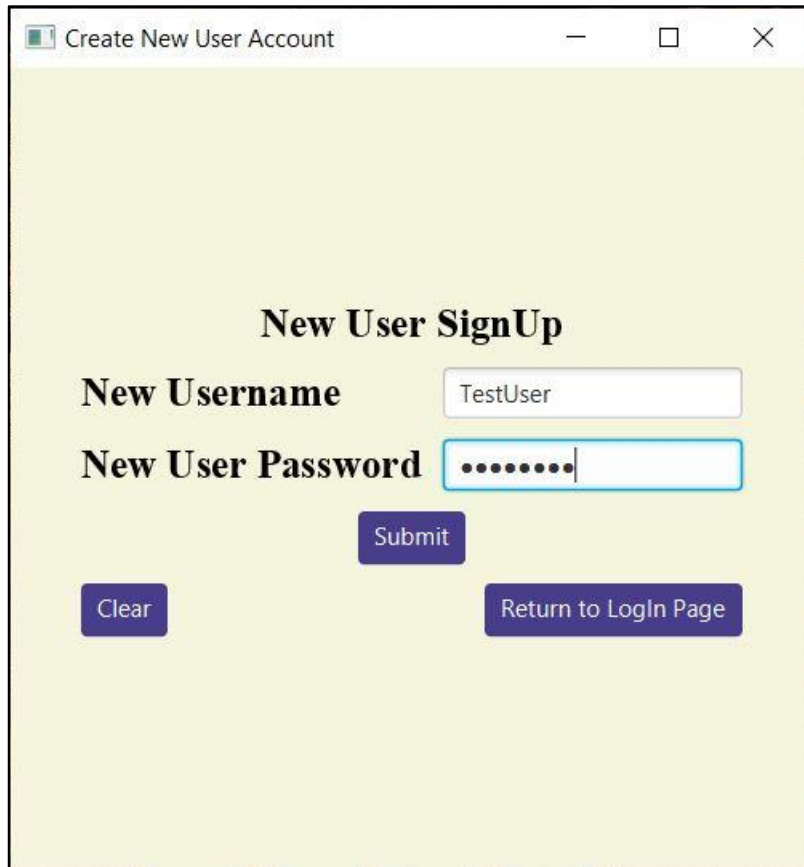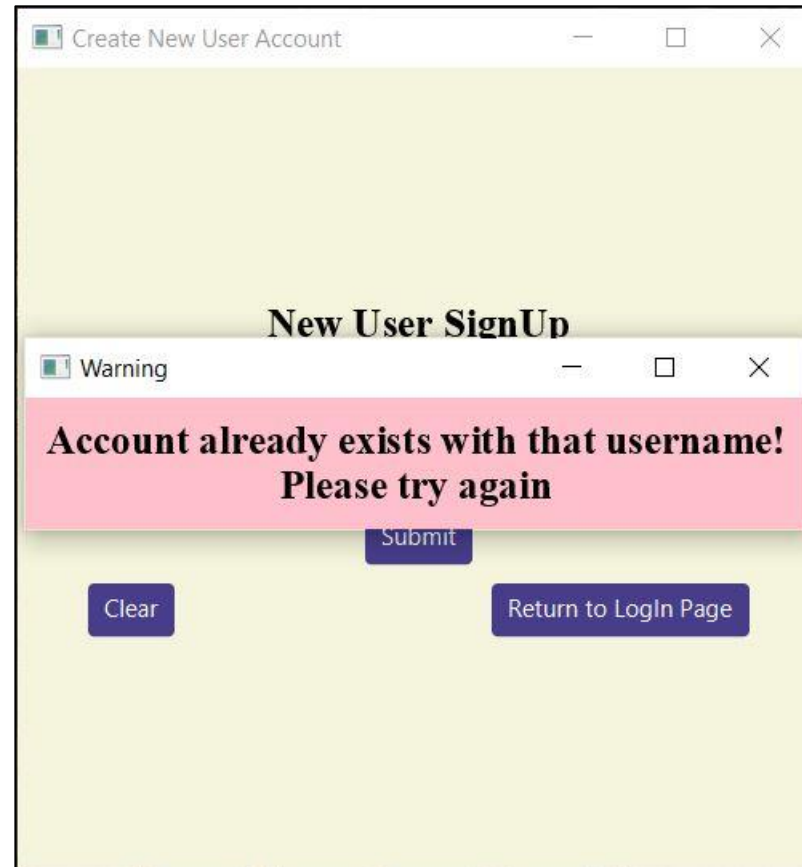
User Menu Flow Chart (cont.)

Fig 12: User Menu Flow Chart
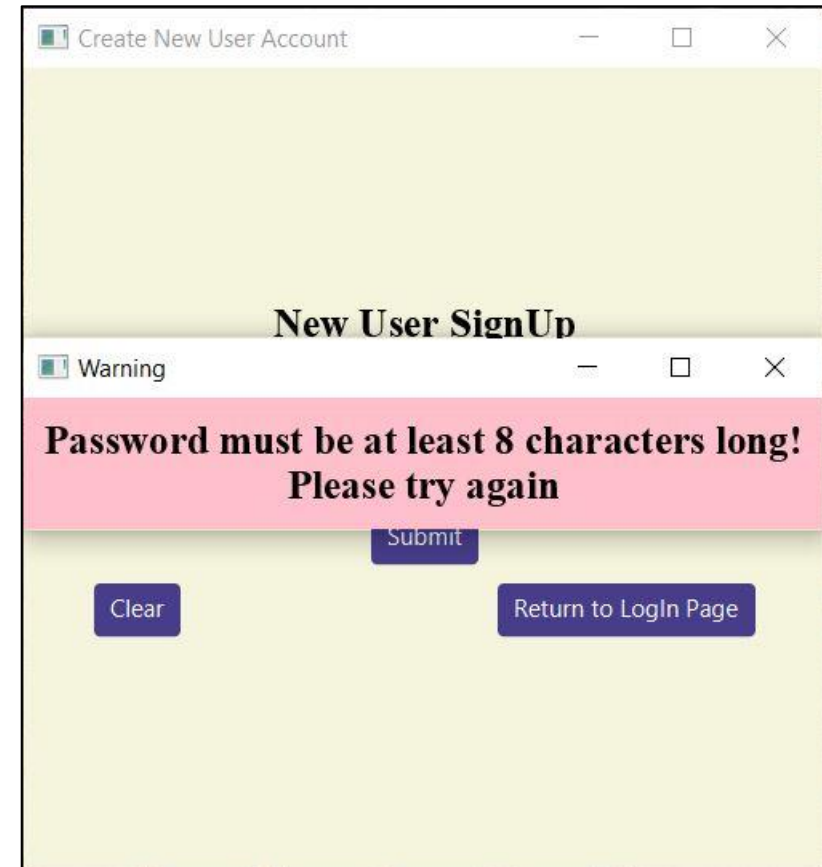
New User Sign Up & Warning Messages

Fig 13: New User Sign Up GUI

Fig 14: Account Exists Warning Message during New User Sign Up GUI

Fig 15: Password Length not met Warning Screen GUI

User Login, Warning Message, & User Menu
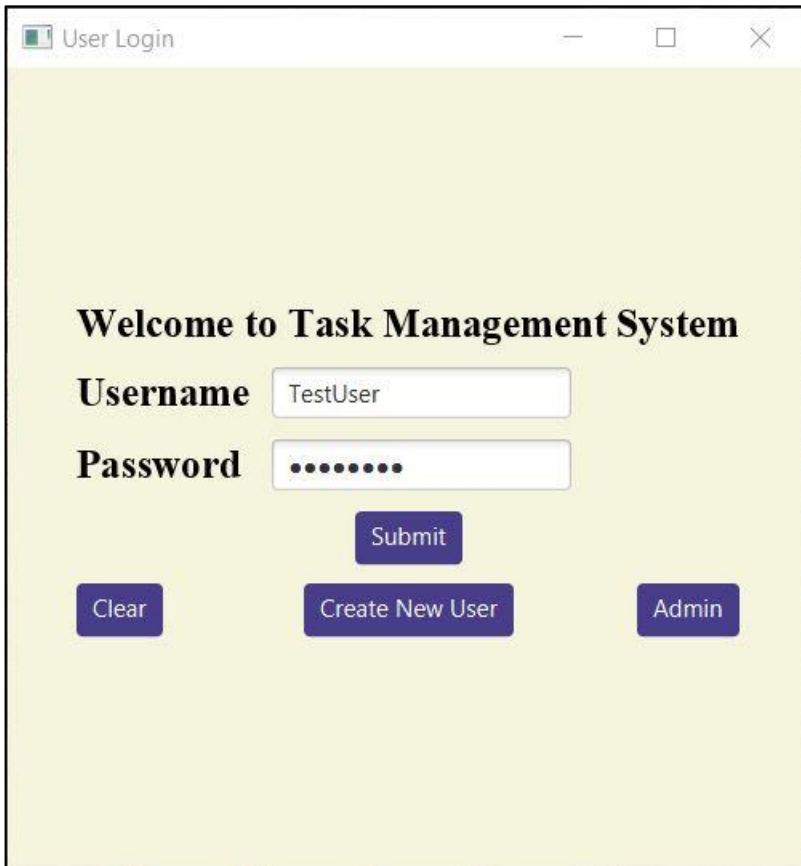
Fig 16: User Login GUI
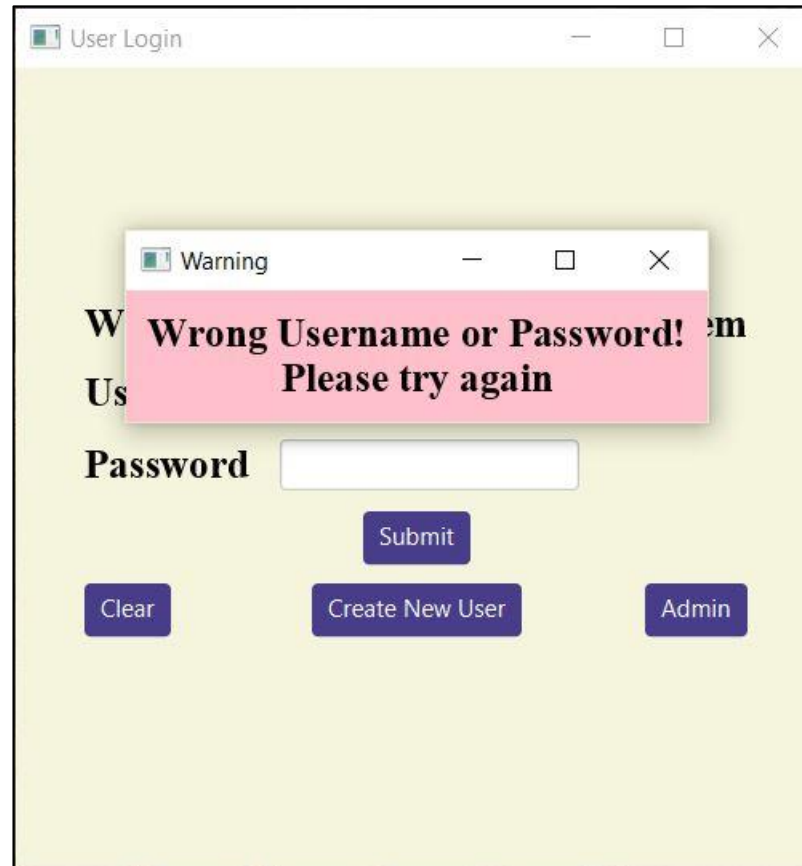
Fig 17: Wrong Username or Password Warning Screen GUI
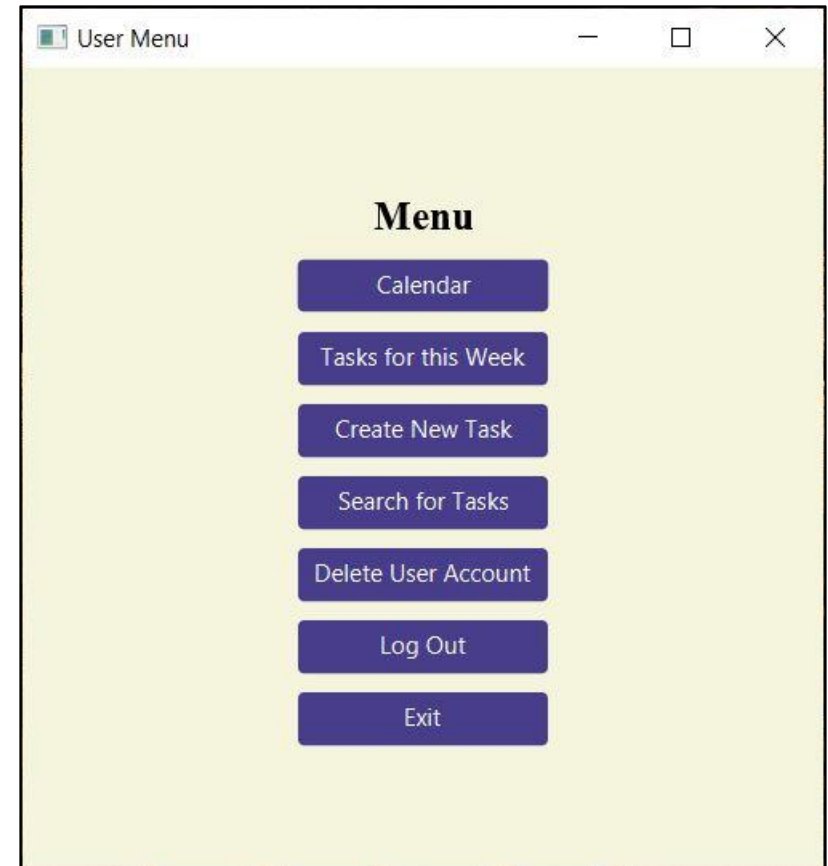
Fig 18: User Menu GUI

Calendar, Month & Year Search w/ Result
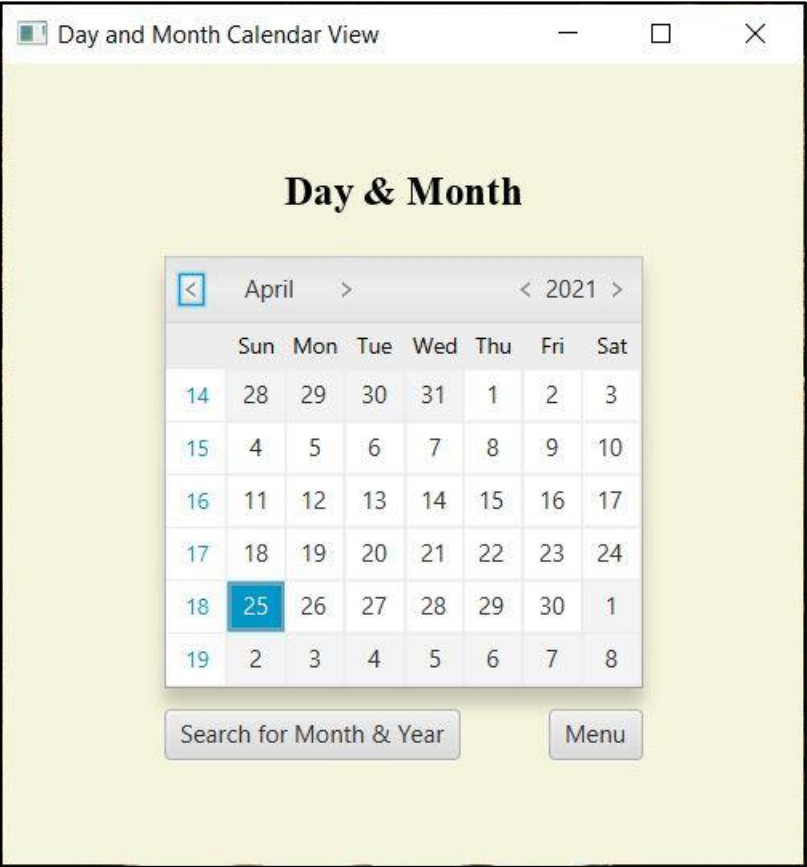
Fig 19: Day and Month Calendar View
GUI
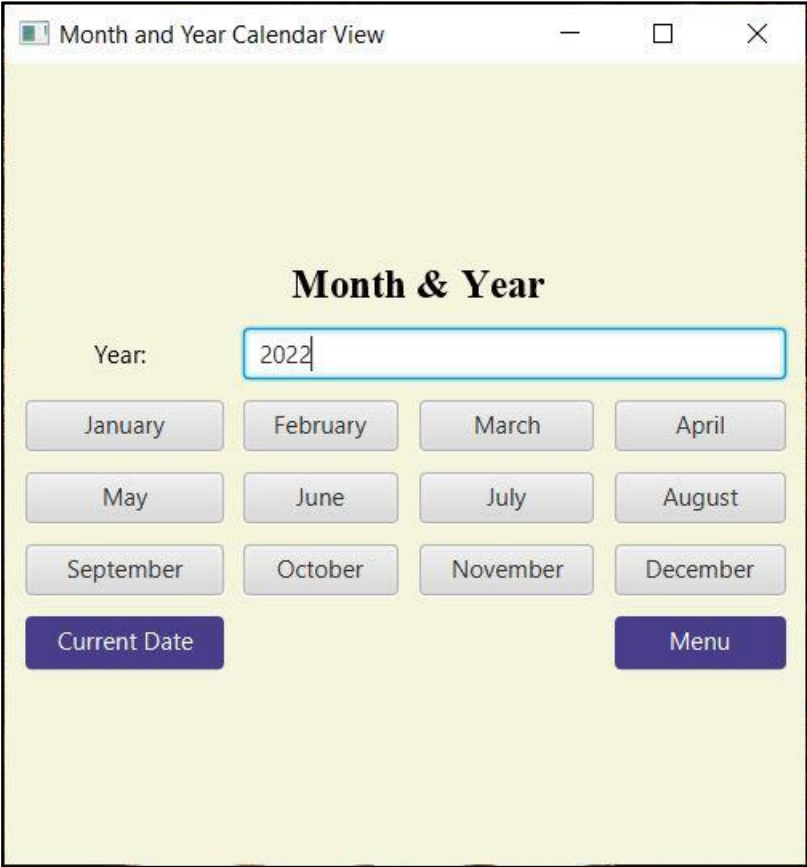
Fig 20: Search for Month & Year
GUI
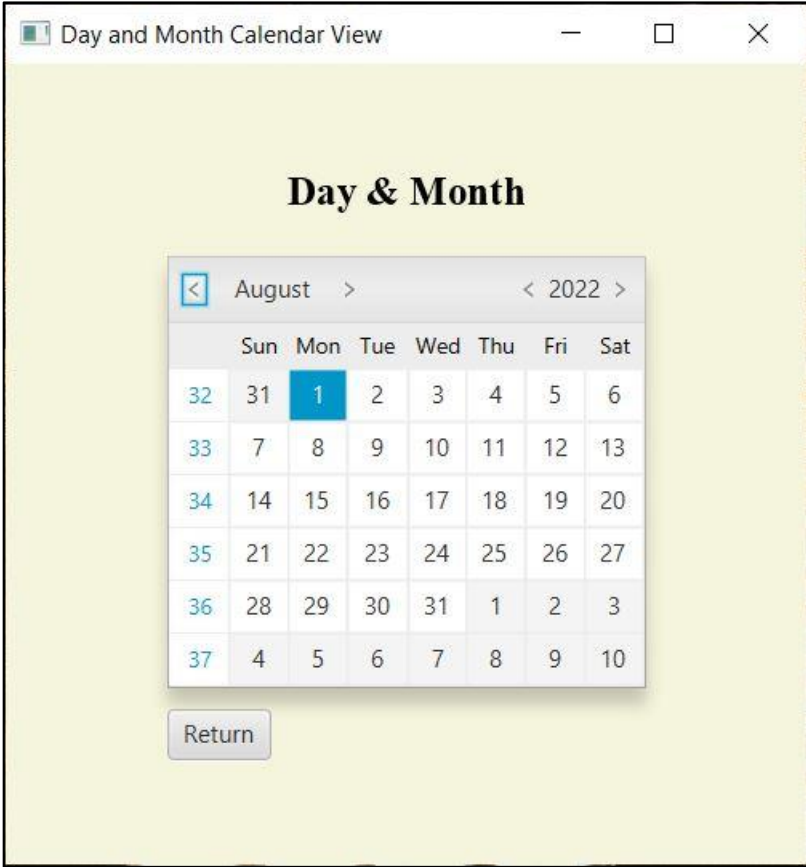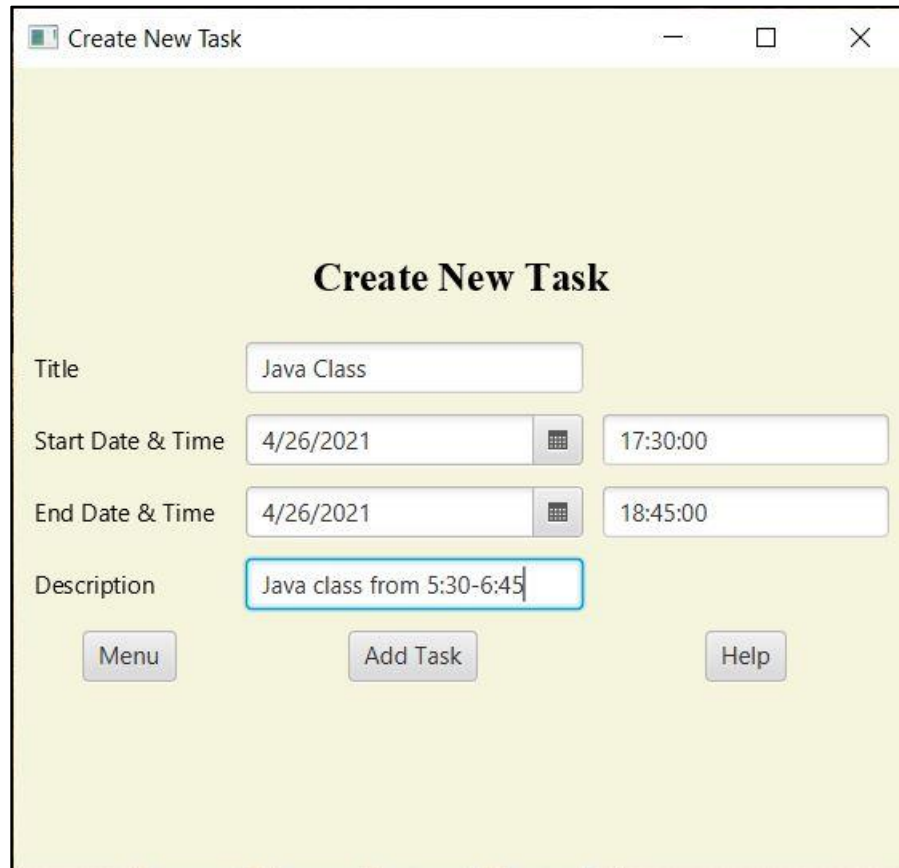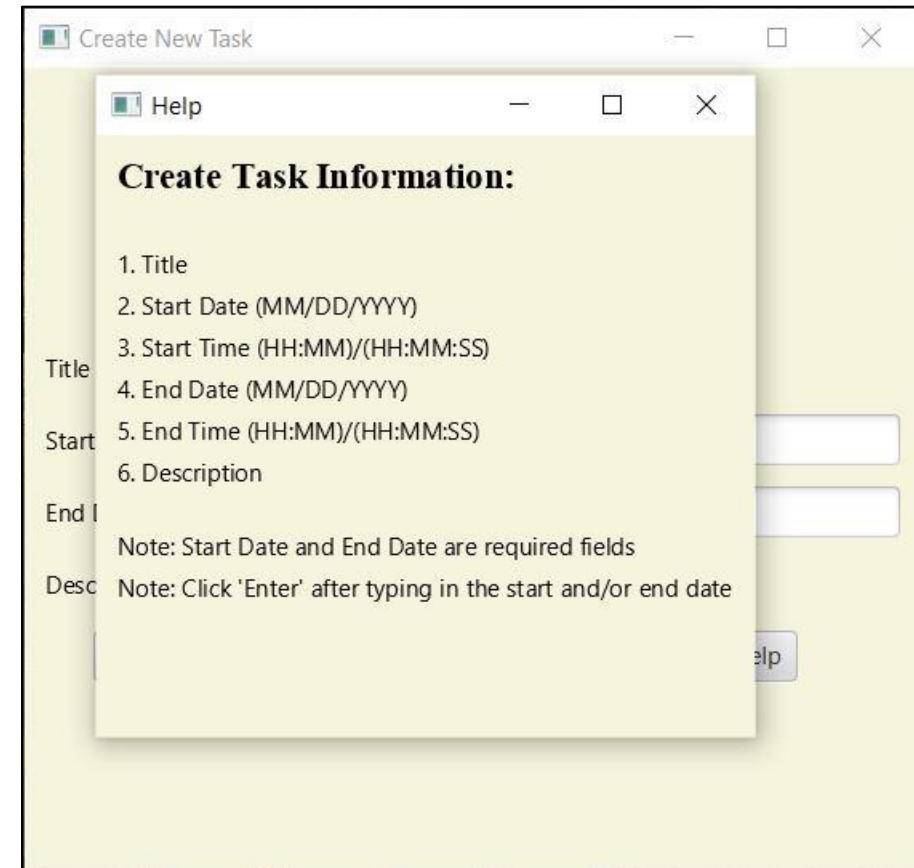
Fig 21: Result of the Month & Year
Search GUI

Create New Task Page with Help Menu

Fig 22: Create New Task GUI

Fig 23: Create Task Information GUI

Search for Task Page with Help Menu

Fig 24: Search for Tasks GUI

Fig 25: Search Options GUI

Tasks for this Week Page

Fig 26: Tasks for this Week GUI

Delete Account Page & Exit Program Page
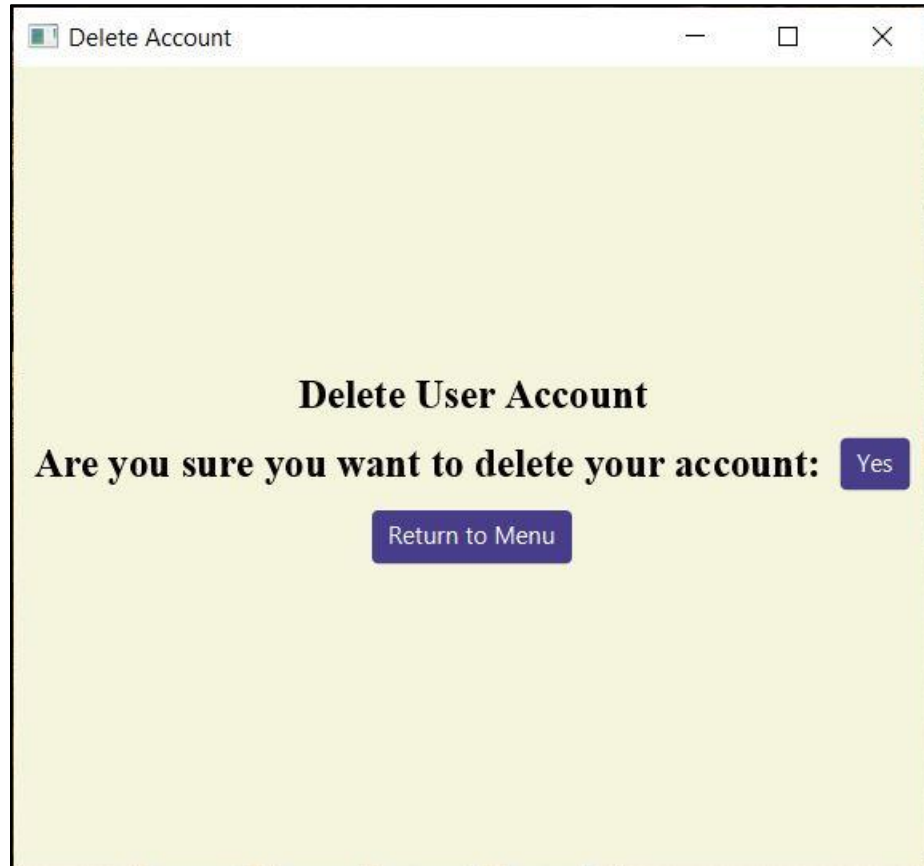
Fig 27: Delete User Account GUI
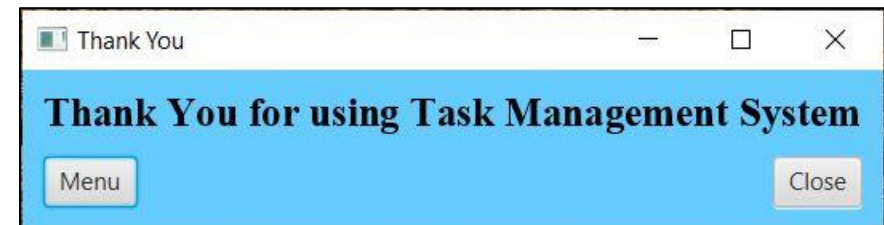
Fig 28: Exit Message GUI

Database
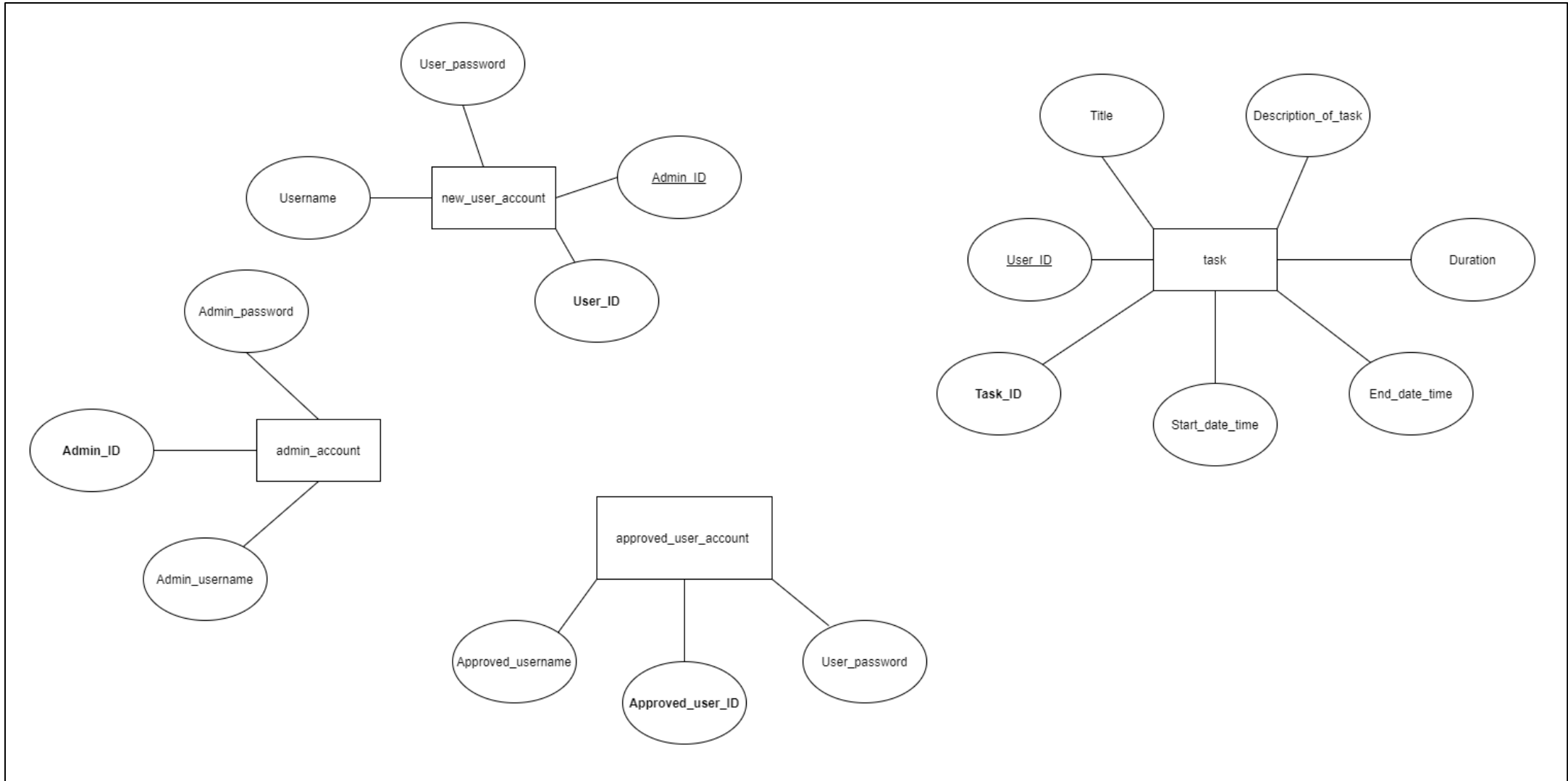
Fig 29: Entity Relationship Diagram

Function Description

- Admin & User Log In
  - Executes a SELECT query with a WHERE condition to determine if the username and password inputted by the user matches exactly (case-sensitive) with one user or admin in their respective table (approved user account or admin account)

- Create New Admin & User Account
  - INSERTs the data collected from user (admin or general) into their appropriate table (admin account or new user account).

- Set Database Connection
  - Connects to a local database by passing in the username, password and JDBC URL to the "DriverManager"

Function Description (cont.)

- Create New Task
  - INSERTs into task table, user inputted values for title, start date and start time, end date and end time, description and duration

- Search for Task
  - SELECTs all the tasks from the task table that matches with the user's input
  - Displays the tasks in a tabular form using TableView

- Converting ResultSet data to Java Object, Observable List & Table View
  - Executes a SELECT query to retrieve data from a table
  - ResultSet of the query is passed to a function that converts each row of the set into an object where the fields are initialized with the data from the row
  - Object is added to an array list to be converted to an ObservableList
  - List is added to the TableView

Function Description (cont.)

- Conflict between Tasks on the User's Calendar
  - Executes a SELECT query on the task table to determine if there exists a task where the start time or end time of the current task is between the start time and end time of another task
  - Displays an error

- DatePickerSkin
  - The class is used to display a calendar

- Edit Task
  - UPDATEs task table depending on the specific field (input) being changed by the user

Variable Description

- Stage
  - Current stage (parameter) of an Application is passed to another Application when transitioning between stages

- ResultSet
  - Passed to a function that returns an array list of objects containing data from the ResultSet when creating a Table View

- Username and Password
  - User inputted values for username and password are stored in variables and are used to insert into tables when creating new accounts or are used to query tables when trying to verify the credentials of a user

- User ID & Admin ID
  - IDs are passed when transitioning between stages (such as, Log In to Menu) to ensure that the data retrieved is specific to the user of the account

Variable Description (cont.)

- Title, Start Date Time, End Date Time, Description, Duration
  - User inputted values for the following fields are stored in variables
  - Used to insert into the task table when creating a task
  - Used to query the task table when searching for a task

- Boolean "Check"
  - Passed to the SearchTasksTableViewScreen class
  - If check is false, then Search for Tasks Page is displayed (Fig. 24)
  - If check is true, then the Tasks for this Week Page is displayed (Fig. 26)

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Thank You