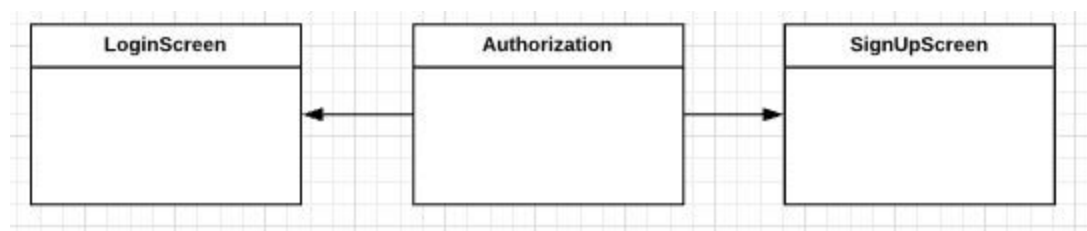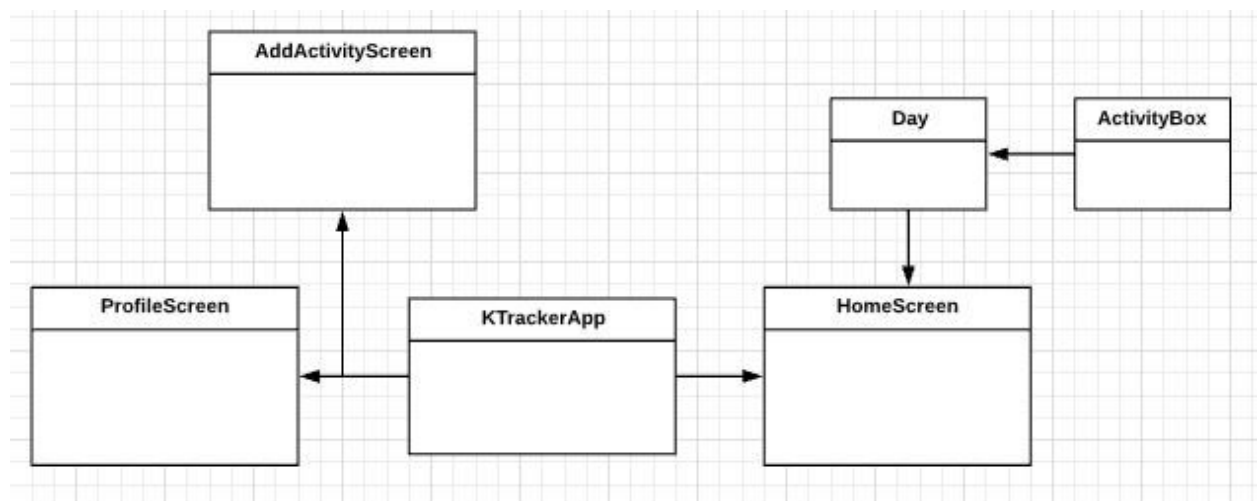# Criterion B - Design

Elements in the Menu Bar:

Exit	Home	Add Activity	Profile

Relationship Between Classes

Authorization

- admin_key
- container
- frames

- switch_frame

LoginScreen

- fonts
- controller
- name
- login_label
- usename_label
- password_label
- username_input
- password_input
- submit
- signup

- login
- switch_mode

SignUpScreen

- fonts
- controller
- name
- sign_up_label
- username_label
- password1_label
- password2_label
- username_input
- password1_input
- password2_input
- submit
- login

- add_user
- switch_mode

ActivityData

- sport
- title
- time
- distance
- description
- id
- attributes

- add
- edit

KTrackerApp

- container
- menubar
- frames
- pages

- switch_frame

HomeScreen

- controller
- name
- days
- day_names
- current_week
- refresh_button
- last_week_button
- next_week_button

- refresh
- weekday

Day

- day
- day_name

ActivityBox

- fonts
- activity
- sport
- title
- time
- distance
- description
- id
- name
- pace
- minutes
- seconds
- hours
- time_text
- distance_text
- description_text
- pace_text
- title_text
- distance_label
- pace_label
- time_label
- edit_button

EditActivityWindow

- Frame
- activity
- cancel
- create
- date_label
- day_input
- days
- description_input
- description_label
- distance_input
- distance_label
- duration_input
- duration_label
- month_input
- months
- sport_input
- sport_label
- sports
- title_input
- title_label
- unit_input
- units
- year_input
- years

- month
- current_month
- edit_activity
- day
- year
- current_year

ProfileScreen

- averages_distance_label
- averages_label
- averages_time_label
- bike_average_distance
- bike_average_time
- bike_count
- bike_distance
- bike_label
- bike_time
- change_pass
- controller
- fonts
- name
- run_average_distance
- run_average_time
- run_count
- run_distance
- run_label
- run_time
- ski_average_distance
- ski_average_time
- ski_count
- ski_distance
- ski_label
- ski_time
- stats
- stats_label
- total_average_distance
- total_average_time
- total_count
- total_distance
- total_time
- totals_count_label
- totals_distance_label
- totals_label
- totals_time_label
- username_label

Statistics

- bike
- run
- ski
- total

SportStats

- total_time
- average_distance
- average_time
- total_count
- total_distance

ChangePasswordWindow

- Frame
- change_pass_label
- fonts
- new_pass1_input
- new_pass1_label
- new_pass2_input
- new_pass2_label
- old_pass_input
- old_pass_label
- submit

- change_pass

AddActivityScreen
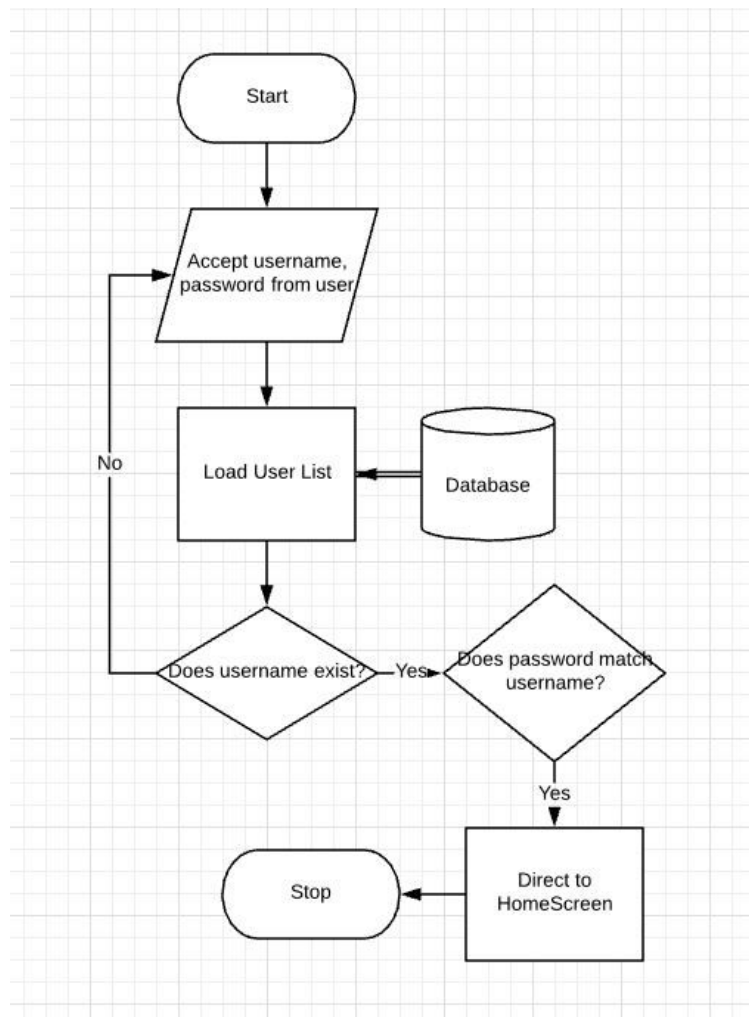
- cancel
- controller
- create
- date_label
- day_input
- days
- description_input
- description_label
- distance_input
- distance_label
- duration_input
- duration_label
- month_input
- months
- name
- sport_input
- sport_label
- sports
- title_input
- title_label
- unit_input
- units
- year_input
- years

- clear
- add_activity
- current_day
- current_month
- current_year

Functionality of Classes

Name	Parent	Purpose
KTrackerApp	None	Manages menubar, contains all pages, manages switching pages.
HomeScreen	KTrackerApp	Displays all activities, manages what week of activities is displayed.
Day	HomeScreen	Organizes ActivityBoxes on the HomeScreen.
ActivityBox	Day	Presents data for an activity.
ActivityData	None	Stores data for an activity.
AddActivityScreen	KTrackerApp	Input for new activities.
ProfileScreen	KTrackerApp	Displays statistics, initializes ChangePasswordWindow.
Statistics	ProfileScreen	Stores all statistics for a user.
SportStats	Statistics	Stores statistics for a specific sport.
Authorization	None	Manages LoginScreen and SignUpScreen, destroyed and initializes KTrackerApp when completed.
LoginScreen	Authorization	Allows user to login, verifies credentials.
SignUpScreen	Authorization	Allows user to sign up, adds new users to database.

| ChangePasswordWindow | None | Allows a user to change their password. |
| EditActivityWindow | None | Opens window allowing the user to edit an activity. Initialized by an ActivityBox. |

Login process

Database

      A Google Sheet was created with the title, 'KTrackerDatabase'. Within the Google API Manager, a new Sheets API was created called 'KTrackerAPI'. KTrackerDatabase was then shared with the API client email, and the file 'client_secret.json' is saved to the project folder.

	A	B	C	D	E	F	G
1	Password						
2							
3	STATISTICS				Averages		
4		Distance	Time	Count	Distance	Time	
5	TOTAL	0	0	0	0	0	
6	SKI	0	0	0	0	0	
7	BIKE	0	0	0	0	0	
8	RUN	0	0	0	0	0	
9							
10	ACTIVITIES						
11	Sport	Title	Time	Distance	Description	ID	
12							

Fig. 2 - Blank template for user worksheet

30				
31				
32				

    +   ≡   Admin ▼   Mary ▼   James ▼

Fig. 3 - View of worksheets

Design of Windows (Graphical User Interface)

Test Plan

Action to be Tested	Test Method
New user being added to database through signup	Run through signup process, then close program and attempt to login with the new credentials.
New activity added to database	Create an activity on the 'Add Activity' page, then open and refresh HomeScreen to see if the activity appears in the activity feed
Edit activity	Edit an activity through the EditActivityWindow. Return to HomeScreen and check if values have been changed.
Change Password	Login, open ProfileScreen, click the 'Change Password' button, input a new password. Close the application and attempt to login with the new password.
Graphical interface is functioning properly	Run through login process and open all available windows to check for errors in window initialization.
Check if user statistics are correct	Manually calculate the total distance and time of all a user's activities, then check against the numbers given on the 'Profile' page. If the values match, the program is functioning properly.