



**Computing Studies and Information Systems**  
**CSIS 4495 002 WINTER 2025**  
**Applied Research Project**

**Developing a Python-Based Interactive Dashboard for Analyzing Movie  
Trends and Insights**

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## PROGRESS REPORT #1

### 1. Work Date/Hours Logs

ACTIVITY	DATE	NUMBER OF HOURS	STATUS	NOTES
Doing Interest and Expertise Survey to find out what skills and technologies want to work on	January 12, 2025	1:00	Complete	Survey completed successfully. Identified interest in Mobile Developments and Building Dashboards by Tableau and PowerBI
Finding the topic for the research project, looking for paper research and previous works	January 14, 2025	2:00	Complete	Explored multiple topics. Narrowed down to Activity Reminder Mobile App.
Creating and adding the Client in the Repo	February 1, 2025	0:00	Complete	Client added to the repository. No time spent as it was instantaneous.
Writing the draft proposal for the Client	January 20, 2025	6:00	Complete	
Discussing to the Client about the choosing topic is Activity Reminder Mobile App for Douglas College students	January 23, 2025	0:30	Complete	Client provided feedback. Topic was approved initially but later changed.
Changing the topic to the Dashboard Development by Python for analyzing movie trends and insights	January 24, 2025	0:30	Approved	Topic changed based on client's suggestion. New focus on Python dashboard developments.
Rewriting the proposal	January 24, 2025	7:00	Complete	Proposal rewritten to reflect the new topic. Submitted for approval. And it was approved

Cleaning database (Netflix database) by using Jupyter Notebook	January 26, 2025	2:00	Complete	Data cleaned and prepared for analysis.
Writing the Progress Report #1	January 29, 2025	5:00	Complete	
Writing questions for an interview	February 1, 2025	1:00	Complete	Questions are being developed for Participant A and B.
Drafting the ideas for the dashboard	February 2, 2025	1:00	Complete	Initial ideas for dashboard layout and functionality drafted.
Coding for the dashboard by Python	February 6, 2025	10:00	In Progress	Coding in progress. Focused on data visualization and user interface.
Doing the interview with Participant A	February 8, 2025	0:30	Complete	Still finding the potential participant and scheduling. The deadline is Feb 10
Doing the interview with Participant B	February 10, 2025	0:30	Complete	Still finding the potential participant and scheduling. The deadline is Feb 12
Analyzing interview results	February 14, 2025	2:00	Complete	Analyze feedback from Participants A and B to refine dashboard features.
Writing the Interview Questions and Responses	February 14, 2025	2:00	Complete	Interview questions and responses documented and uploaded to GitHub.
Cleaning database (IMDB database) by using Jupyter Notebook	February 16, 2025	1:00	Complete	Data cleaned and prepared for analysis.
Adding IMDb dataset (imdb_top_1000.csv) to the repository	February 16, 2025	0:00	In Progress	Primary dataset for “Gross Earnings Explorer” added to repo. No time spent as it was instantaneous.
Coding the “Movie Trends Dashboard” welcome page	February 18, 2025	1:00	Complete	Initial script (Welcome.py) completed with layout and styling

Coding the “Explore Global Trends” dashboard	February 20, 2025	5:00	Complete	Initial script (GlobalTrend.py) completed with Netflix-based visualizations and filters. Enhanced with custom styling.
Drafting the midterm report	February 24, 2025	3:00	Complete	Midterm report drafted to summarise progress, including interviews, and initial coding efforts.
Coding the “Gross Earnings Explorer” dashboard	March 1, 2025	7:00	Complete	Initial script (GrossEarnings.py) completed with data loading, cleaning, and filters.
Enhancing dashboards with custom styling and informative elements	March 5, 2025	8:30	Complete	Improved visual appeal and usability of Welcome page, Explore Global Trends, and Gross Earnings Explorer dashboards.
Drafting the progress report #2	March 9, 2025	4:00	Complete	Progress report #2 drafted to detail dashboard development, interview insights, and visualization progress.
Creating user authentication for the dashboards	March 14, 2025	2:30	Complete	Built the login system and a registration feature to Welcome.py. Included checks to prevent duplicate usernames and securely appended new users’ data to users.json
Adding profile editing functionality	March 18, 2025	5:30	Complete	Implemented an edit form on the profile page to update full name, date of birth, email, and password. Added validation for password confirmation and updated users.json with changes.
Integrating avatar upload feature	March 19, 2025	0:30	Complete	Added avatar upload supports to the profile page,

Creating the movie checklist	March 22, 2025	8:15	In progress	
Drafting the progress report #3	March 23, 2025	0:45	Complete	Wrote Progress Report #3 to detail this week's work: user authentication, profile page, and movie checklist features.
Create a share forums for users				
Drafting the progress report #4				

## 2. Description of work done

This week, I advanced the Movie Trends Dashboard project by implementing several core features:

- A user login and registration system.
- A profile page where users can view and update their personal details.
- A movie checklist feature that fetches movie data from the TMDB API.

## 3. Challenges and Solutions

A key challenge this week was starting the Movie Trends Dashboard with limited experience in Streamlit and integrating external APIs. To overcome this, I relied on online tutorials and documentation for Streamlit and the TMDB API. By adapting example code and troubleshooting errors, I successfully built a working dashboard with user authentication, a profile section, and a movie checklist feature.

## 4. Repo Check in of Implementation

The following files and folders have been checked into the project repository, categorized based on their purpose and contribution to the project:

- a. Reports and Documents folder:
  - Progress Report #3 (Added: March 21, 2025)

- b. Misc folder:
- c. Implementation folder:
  - Welcome.py (Added: March 21, 2025) – The main script for the dashboard’s welcome page and user authentication features.
  - MovieChecklist.py (Added: March 21, 2025) – Script for the movie checklist feature, integrating the TMDB API for movie data.

## 5. Dashboard Code Explanation

### Welcome page:

- Displays the current date and introduces users to the dashboard's features, like tracking trending movies and box office insights.
- Requires login or registration via a sidebar form to access most features.
  - Login: Verifies username and password against a users.json file. On success, session state tracks the logged-in user.
  - Registration: Allows new users to sign up with a unique username, password (with confirmation), full name, and email. New data is securely stored in users.json.
- After logging in, the username appears in the sidebar, unlocking additional options.
- Profile Page: Logged-in users can view/edit their details (username, full name, date of birth, email, password) and upload an optional avatar (PNG/JPG) saved to an avatars directory. Updates include validation (e.g., matching passwords).

### Movie Checklist:

- Connects to the TMDB API for real-time movie data.
- Search: Users can search movies by title, viewing up to five results with release date, rating, overview, and posters (if available).
- Checklist: Movies can be added to a personal list stored in session state, split into “To Watch” and “Watched” tabs. Users can mark movies as watched or remove them.
- Popular Movies: Displays trending films from TMDB, with a one-click option to add them to the checklist.