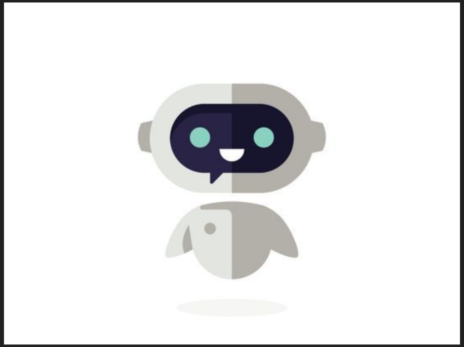
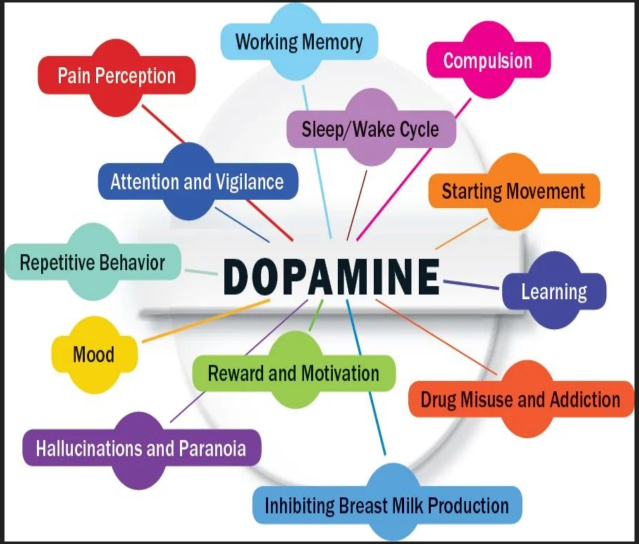
Reward BOT!



Lakshitha Gattu, Yoonje Lee, Chris Johnston, Eric Jung
Team: Can'tBeLAME

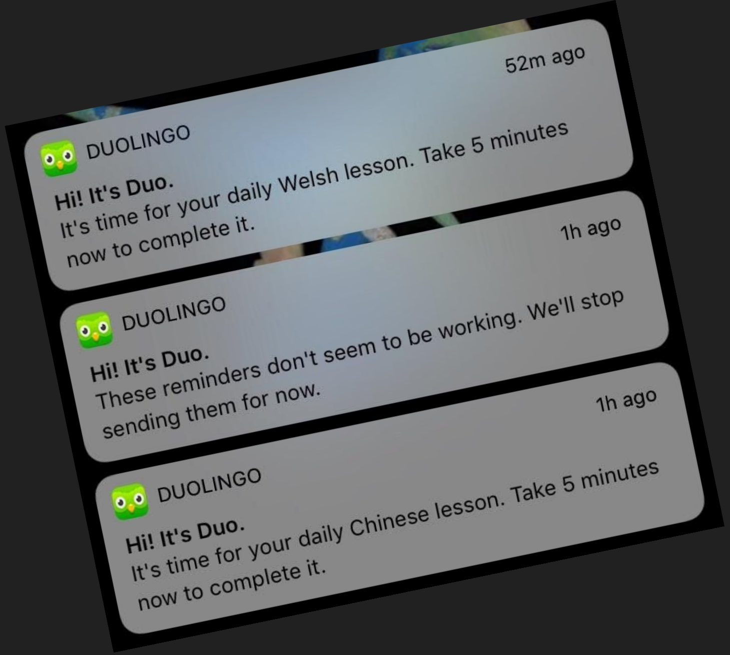
Problem Statement:

Students are not motivated to get their work done, as the rise of technology and social media has made access to instant dopamine very easy. Thus, students tend to put off their work and put their attention on things that provide instant dopamine and gratification.



Proposed Solution:

RewardBot!



DUOLINGO 52m ago

Hi! It's Duo.
It's time for your daily Welsh lesson. Take 5 minutes now to complete it.

DUOLINGO 1h ago

Hi! It's Duo.
These reminders don't seem to be working. We'll stop sending them for now.

DUOLINGO 1h ago

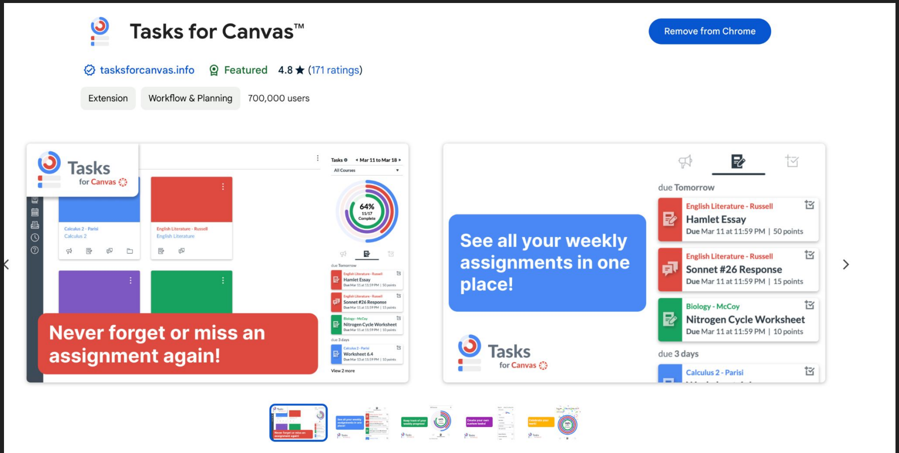
Hi! It's Duo.
It's time for your daily Chinese lesson. Take 5 minutes now to complete it.

System that gives random rewards to team members for performing actions (i.e. commiting code to a repo, finishing assignments on Canvas, etc.). The system can give rewards such as custom icons for your profile picture, prizes like discount code coupons, and even bonus points for completing a task early.

Current Examples

Task for Canvas:

- Many students are using this
- Improve it by giving students rewards (coupons, bonus points)



Tasks for Canvas™

tasksforcanvas.info Featured 4.8 ★ (171 ratings)

Extension Workflow & Planning 700,000 users

Remove from Chrome
Tasks for Canvas
Never forget or miss an assignment again!
See all your weekly assignments in one place!
64%

due Tomorrow

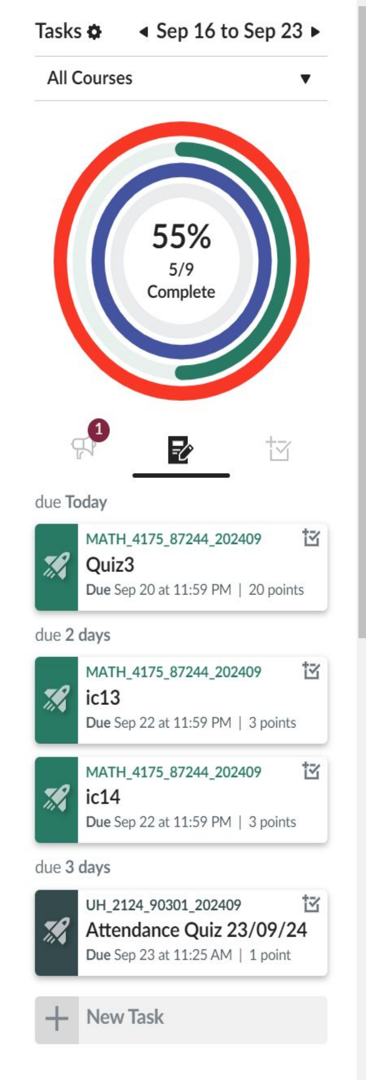
English Literature - Russell
Hamlet Essay
Due Mar 11 at 11:59 PM | 50 points

English Literature - Russell
Sonnet #26 Response
Due Mar 11 at 11:59 PM | 15 points

Biology - McCoy
Nitrogen Cycle Worksheet
Due Mar 11 at 11:59 PM | 10 points

due 3 days

Calculus 2 - Parisi



Tasks ◂ Sep 16 to Sep 23 ▸

All Courses ▾

55%
5/9
Complete

due Today

MATH_4175_87244_202409
Quiz3
Due Sep 20 at 11:59 PM | 20 points

due 2 days

MATH_4175_87244_202409
ic13
Due Sep 22 at 11:59 PM | 3 points

MATH_4175_87244_202409
ic14
Due Sep 22 at 11:59 PM | 3 points

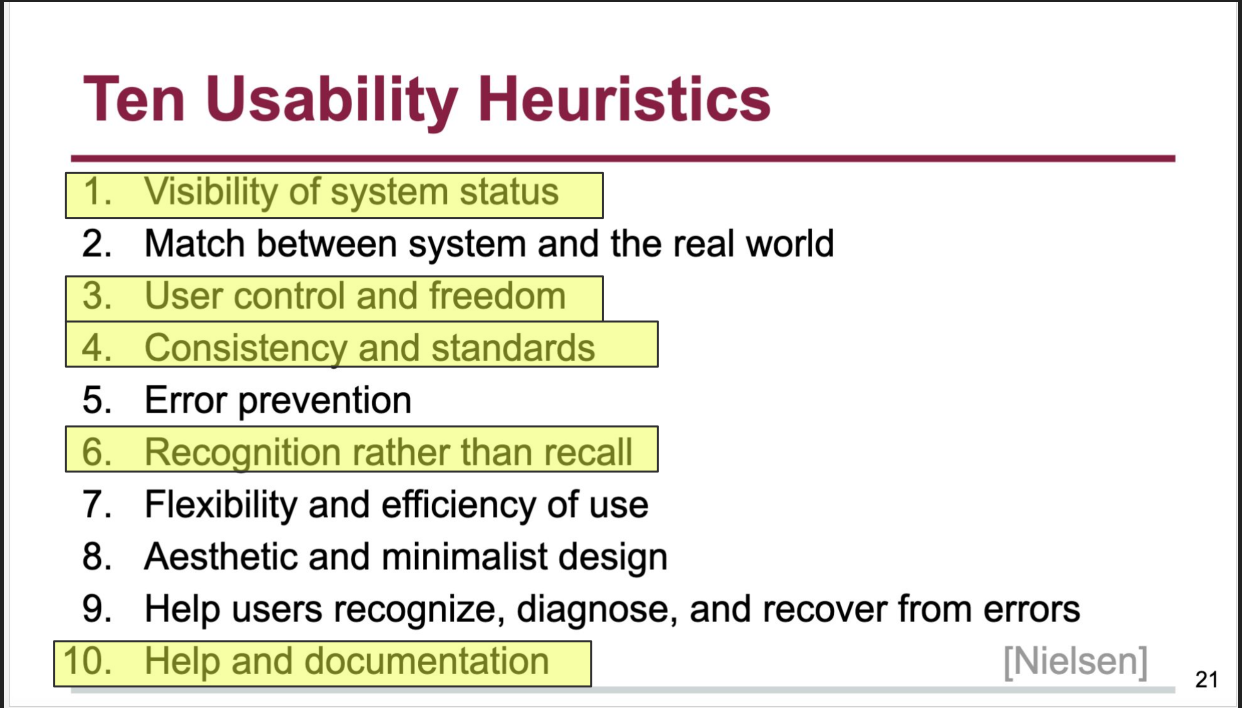
due 3 days

UH_2124_90301_202409
Attendance Quiz 23/09/24
Due Sep 23 at 11:25 AM | 1 point

Class Concepts

1) Usability Heuristics
2) High Level Design - 3-Layered Architecture
3) Prototyping

Usability Heuristics



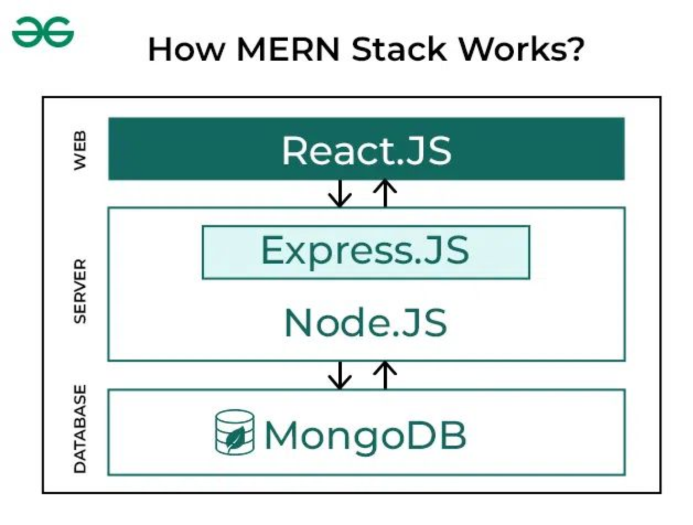
Ten Usability Heuristics

1. Visibility of system status
2. Match between system and the real world
3. User control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetic and minimalist design
9. Help users recognize, diagnose, and recover from errors
10. Help and documentation

[Nielsen]

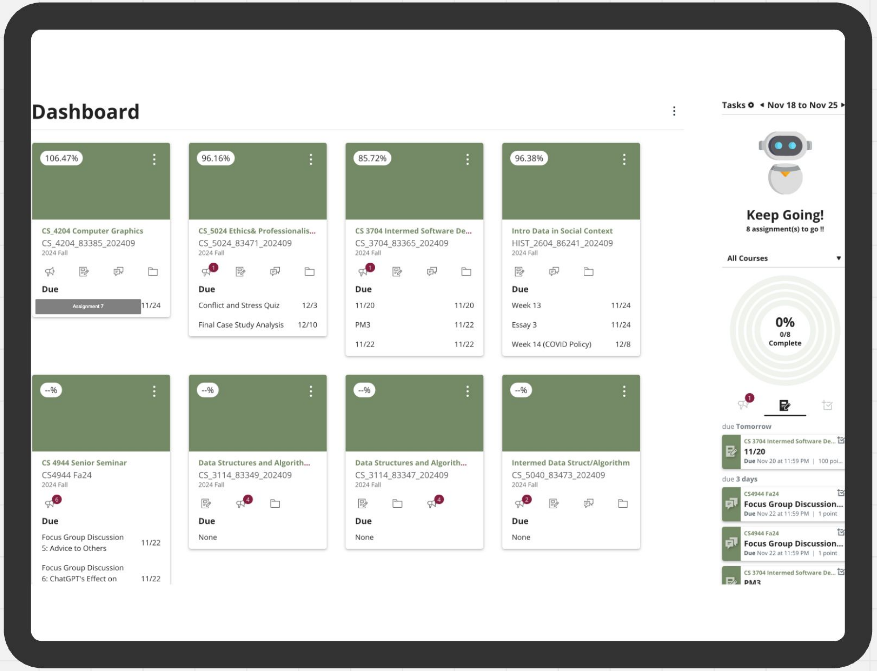
High Level Design

- 3-Layered-Architecture
- Model-View-Controller (MVC)
  - MERN (MongoDB, Express.js, React.js, Node.js)
  - MongoDB: Database
  - Express.js and Node.js: Backend
  - React.js: FrontEnd
- Pros:
  - Multiple Views for one dataset
    - ex). Bar graph, pie chart, scatter plot for one dataset from database



Prototyping

Incomplete assignments



Dashboard

106.47%

CS_4204 Computer Graphics
CS_4204_83385_202409
2024 Fall

Due

Assignment 7 11/24

96.16%

CS_5024 Ethics& Professionalis...
CS_5024_83471_202409
2024 Fall

Due

Conflict and Stress Quiz	12/3
Final Case Study Analysis	12/10

85.72%

CS 3704 Intermed Software De...
CS_3704_83365_202409
2024 Fall

Due

11/20	11/20
PM3	11/22
11/22	11/22

96.38%

Intro Data in Social Context
HIST_2604_86241_202409
2024 Fall

Due

Week 13	11/24
Essay 3	11/24
Week 14 (COVID Policy)	12/8

--%

CS 4944 Senior Seminar
CS4944 Fa24
2024 Fall

Due

Focus Group Discussion 5: Advice to Others	11/22
Focus Group Discussion 6: ChatGPT's Effect on	11/22

--%

Data Structures and Algorith...
CS_3114_83349_202409
2024 Fall

Due

None

--%

Data Structures and Algorith...
CS_3114_83347_202409
2024 Fall

Due

None

--%

Intermed Data Struct/Algorithm
CS_5040_83473_202409
2024 Fall

Due

None

Tasks ⚙ ◂ Nov 18 to Nov 25 ▸

Keep Going!
8 assignment(s) to go !!

All Courses ▾

0%
0/8
Complete

due **Tomorrow**

CS 3704 Intermed Software De...
11/20
Due Nov 20 at 11:59 PM | 100 poi...

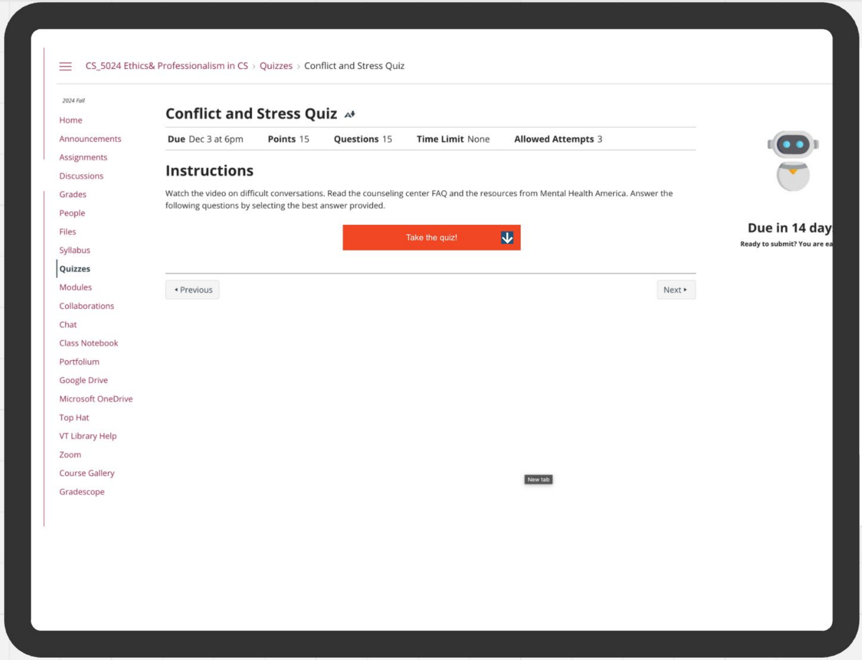
due **3 days**

CS4944 Fa24
Focus Group Discussion...
Due Nov 22 at 11:59 PM | 1 point

CS4944 Fa24
Focus Group Discussion...
Due Nov 22 at 11:59 PM | 1 point

CS 3704 Intermed Software De...
PM3

Canvas assignment page



CS_5024 Ethics& Professionalism in CS › Quizzes › Conflict and Stress Quiz

Conflict and Stress Quiz

Due Dec 3 at 6pm **Points** 15 **Questions** 15 **Time Limit** None **Allowed Attempts** 3

Instructions

Watch the video on difficult conversations. Read the counseling center FAQ and the resources from Mental Health America. Answer the following questions by selecting the best answer provided.

Due in 14 day
Ready to submit? You are ea

Future work

1. Canvas LMS Authentication

- **Current State**: Users create accounts with a manually generated Canvas token
- **Future Goal**:
  - Integrate direct login functionality with Canvas LMS
  - Obtain Canvas developer access to streamline authentication

2. Customizable Semester Date Range

- **Current State**: Semester dates are hard-coded (e.g., August 23rd, 2024 – December 18th, 2024)
- **Future Goal**:
  - Allow users to customize date ranges to match their institution's schedule

3. Broader Canvas Support

- **Current State**: Works exclusively with Virginia Tech’s Canvas page
- **Challenges**:
  - Uncertainty around API integration for other institutions.
- **Future Goal**:
  - Expand support to all Canvas users
  - Diagnose and resolve API limitations for multi-institution functionality

Demo

1. npm install -g npm@10.7.0 - use this version of npm (this function downloads it) https://nodejs.org/en/download/package-manager
2. Git clone repositories for front-end and back-end
3. Runs “npm install” then “npm start” for both.

Sample email and password:

Email: app@gmail.com

Password: 1234

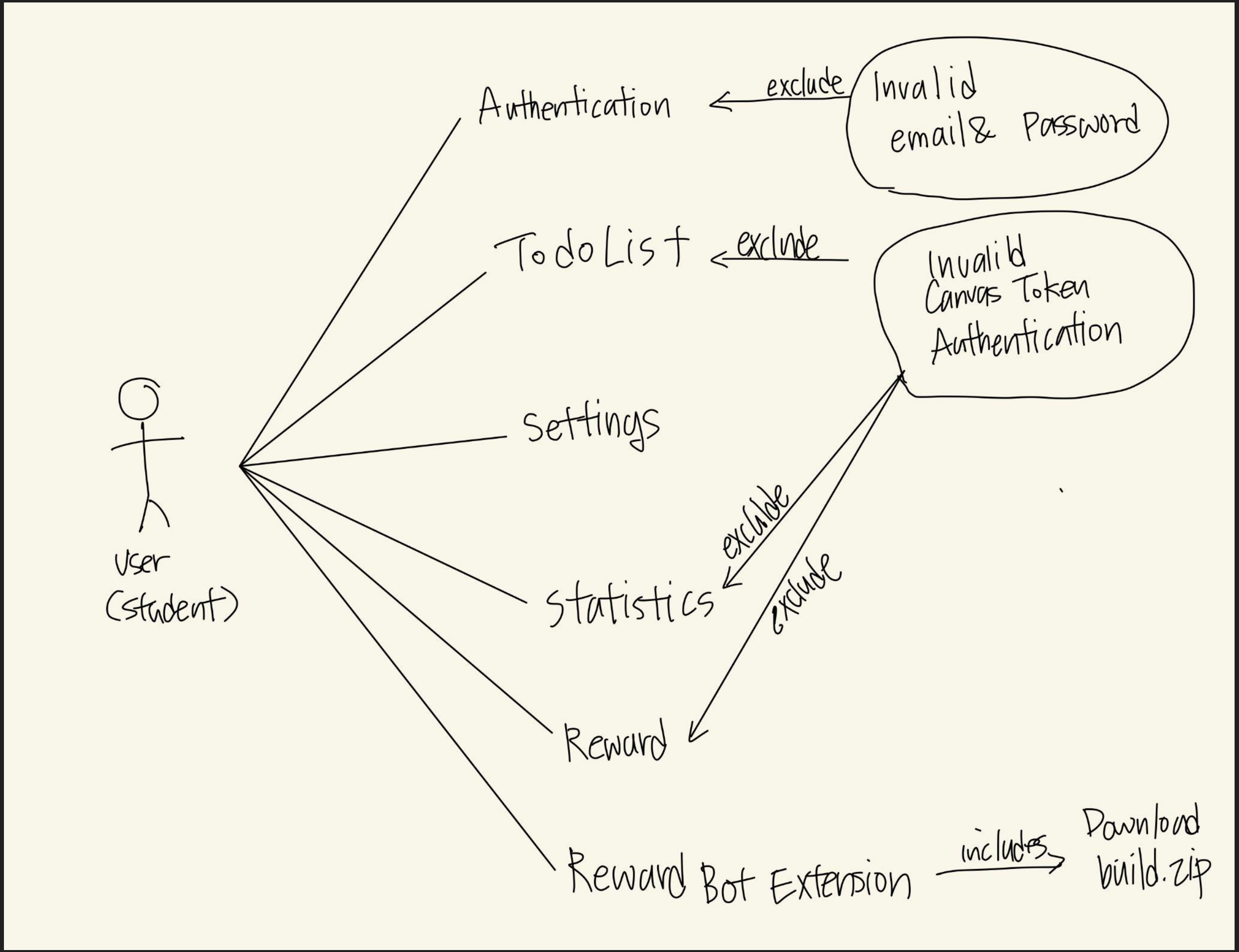
Use Cases

Authentication

RewardBot Extension

To-Do List

Statistics



Use Case: Authentication

Preconditions: User must have a Canvas API token.

Main Flow:

- User logs in with username/email and password or creates an account.
- For account creation: user enters username, password, and Canvas API token.
- Successful login or account creation leads to access.

Alternative Flows:

- Invalid API token → Error popup.
- Incorrect credentials → Prompt to retry or reset password.

Postconditions: User is authenticated and logged in.

Use Case: Reward Bot Extension

Preconditions: Student has Google Chrome installed and user has logged in to website

Main Flow:

- Download the RewardBot ZIP file.
- Unzip the file.
- Open Chrome, go to chrome://extensions, enable Developer Mode, and load the unzipped folder.
- Go to Canvas.
- See the RewardBot

Alternative Flows:

- The assignment is not being submitted through canvas
- User wants to change the range of timeline

Postconditions: User are able to check assignment due dates, view remaining assignments, and interact with the bot.

Use Case: To-Do List

Preconditions: User must be logged in, and assignments must be synced.

Main Flow:

- Lists all assignments with future due dates.
- User marks an assignment as "Completed" → It is crossed off the list.

Alternative Flows:

- No upcoming assignments → Message: “You’re all caught up!”
- Sync error → Prompt to retry.

Postconditions: Updated todo list with completed assignments crossed off.

Extra Use Case: Statistics

Preconditions: User must be logged in, and Canvas data must be synced.

Main Flow:

- Bar graph shows number of assignments per class by status:
- No Submission, Missing, Late, Complete.
- User applies a time filter (day, week, month, semester).
- Graph updates dynamically.

Alternative Flows:

- No data for the time period → Message displayed: “No data available.”
- Sync error → Prompt to retry.

Postconditions: User views filtered assignment statistics.

Use Case: Authentication

Preconditions

- User must have access to their Canvas API token.
- The system is online and connected to the database.

Main Flow

1. The user launches the app and lands on the login screen.
2. If the user has an account:
    - They enter their **username/email** and **password** and click the **Login** button.
    - The system verifies the credentials and logs the user in [S1].
3. If the user does not have an account:
    - They click the **Make Account** button.
    - The user is prompted to enter a **email**, **password**, **confirm password**, and **Canvas API token** [S2].
    - If the API token is valid, a success popup appears, and the account is created [S3].
    - If the token is invalid, an error popup is displayed, and account creation is denied [E1].

Subflows

- **[S1] User Login**:
    - System checks the database for matching username/email and password.
    - If a match is found, the user is authenticated and logged in.
    - If no match is found, the user is shown an error message [E2].
- **[S2] Account Creation**:
    - System validates:
        - Password matches **Confirm Password**.
        - Canvas API token is valid by sending a request to Canvas.
    - If both conditions are met, the system stores the account in the database.
- **[S3] Account Creation Success**:
    - A popup notifies the user that the account has been created successfully.
    - The system redirects the user to the login screen.

Alternative Flows

- **[E1] Invalid Canvas API Token**:
    - The system displays a popup stating the API token is invalid when loggin in
    - The user is prompted to re-enter the token.
- **[E2] Invalid Login Credentials**:

Use Case: Statistics

Preconditions

- User must be logged into their account.
- User's Canvas data must be successfully synced with the bot.

Main Flow

1. The user navigates to the **Statistics** page.
2. The bot retrieves the user's assignment data from Canvas and displays it as a bar graph [S1].
3. The user selects a **time period** filter (e.g., day, week, month, semester) [S2].
4. The bar graph updates dynamically to reflect the selected time period, showing:
    - **Number of assignments** with statuses:
        - No Submission
        - Missing
        - Late
        - Complete

Subflows

- **[S1] Display Assignment Data**:
    - System generates a bar graph for all current classes.
    - Each bar represents a class and is divided into sections for assignment statuses (No Submission, Missing, Late, Complete).
- **[S2] Apply Time Filter**:
    - User selects a time period (day, week, month, semester) from a dropdown or button interface.
    - The system filters assignments based on the selected time period and updates the graph.

Alternative Flows

- **[E1] No Assignment Data**:
    - If there is no assignment data for the selected time period, the bot displays a message: "No assignment data available for the selected time period."
- **[E2] Sync Error**:
    - If the system fails to sync data from Canvas, the user is notified with an error message and prompted to retry or re-authenticate.

Postconditions

- **Success Guarantee**:
    - The user views a bar graph showing the number of assignments by class and status for the chosen time period.
- **Failure Scenarios**:
    - The user is shown an appropriate error message if data cannot be displayed or retrieved.

Use Case: Todo List

Preconditions

- User must be logged into their account.
- Assignments must be synced from Canvas.

Main Flow

1. The user navigates to the **Todo List** page.
2. The bot retrieves and displays all assignments with future due dates [S1].
3. Assignments are listed with the following details:
   - **Assignment name**
   - **Due date**
4. If the user completes an assignment before its due date:
   - The user marks it as "Completed" [S2].
   - The assignment is crossed off the list.

Subflows

- **[S1] Display Future Assignments**:
  - The system filters assignments to show only those with future due dates.
  - Assignments are displayed in chronological order with no additional metadata like class name.
- **[S2] Mark Assignment as Completed**:
  - The user clicks on a checkbox or "Mark Complete" button for an assignment.
  - The system updates the assignment's status and visually crosses it off the list.

Alternative Flows

- **[E1] No Upcoming Assignments**:
  - If there are no future assignments, the system displays a message:
    "You're all caught up! No upcoming assignments."
- **[E2] Sync Error**:
  - If the system fails to sync assignment data from Canvas, the user is notified with an error message and prompted to retry or re-authenticate.

Postconditions

- **Success Guarantee**:
  - The user sees an updated todo list of future assignments, with completed assignments crossed off.
- **Failure Scenarios**:
  - The user is shown an appropriate error message if assignment data cannot be displayed or marked as complete.