Group 3

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Application chosen: Blackboard

Blackboard is a comprehensive e-learning platform designed to enhance the digital education experience for students, educators, and administrators. It offers a centralized hub where users can access course materials, submit assignments, participate in discussions, track grades, and engage with peers and instructors. With user-friendly tools for collaboration and communication, Blackboard makes it easier to manage learning activities, stay organized, and track progress, creating a seamless and interactive educational environment. Whether on desktop or mobile, Blackboard ensures that learning is accessible anytime, anywhere.

User Personas:

1) Freshman Fiona, a first-time college student



"With everything going on, I need a platform that keeps me organized and stress-free."

Attributes:

- Organized but anxious
- Eager to engage
- Time-Pressured
- Self-motivated
- Tech-savvy but learning

A. Background

Fiona is an 18-year-old first-year college student at UT Dallas, majoring in Psychology. She recently graduated high school and is excited but also a bit nervous about navigating the new academic environment. Fiona is highly motivated to succeed in her studies but is still adjusting to the independence and self-management that college requires. Although tech-savvy, Fiona has never used a comprehensive online learning system like Blackboard before and is learning to balance her academic responsibilities with her social life.

In her free time, Fiona enjoys reading, listening to podcasts, and attending campus events to meet new people. She values community and seeks guidance from her peers and professors as she settles into her new life.

A Day in the Life of Fiona

7:30 AM:

Fiona starts her day by checking her calendar for any upcoming deadlines. She uses her phone to browse through Blackboard, making sure she's up to date on her assignments and readings for the week. After breakfast, she heads to her first class.

9:00 AM:

In class, Fiona takes notes on her laptop. After class, she logs into Blackboard to review her professor's lecture slides and check for any discussion board posts. She contributes a few thoughts to the online forum as participation is part of her grade.

11:00 AM:

Fiona has some free time between classes, so she grabs coffee and reviews the syllabus for another course. She downloads the assignment instructions and uses the Blackboard app to make sure she understands the requirements for her upcoming essay.

1:00 PM:

Back in her dorm room, Fiona works on her first big college essay. She opens Blackboard on her

laptop to check if the professor uploaded any additional resources and cross-references her notes with the reading materials. She also emails a TA through the platform with a question about the assignment.

4:00 PM:

After a study break, Fiona heads to a group study session with her classmates. She brings up Blackboard on her tablet to show her group the updated additional readings uploaded by the professor.

6:00 PM:

Before wrapping up for the day, Fiona checks her grades on Blackboard. She sees her first quiz grade and is happy with her score but notices there's feedback from the professor that she reviews carefully.

10:00 PM:

Fiona updates her to-do list by looking at Blackboard before heading to bed, making a mental note to start reading for her next class. She feels relieved knowing she's staying on top of her work.

B. Goals

1. Stay Organized

Fiona wants to keep track of her assignments, deadlines, and grades in one place. She needs Blackboard to help her stay organized as she navigates her first semester of college.

2. Easily Access Course Materials

As a first-time student, Fiona is looking for an easy and intuitive way to access lecture slides, readings, and course announcements so she doesn't miss important updates.

3. Engage in Class Discussions

Fiona values participation in her courses and wants to engage with her peers and professors through Blackboard's discussion boards and collaborative features.

4. Stay Updated

Fiona wants to receive notifications about upcoming deadlines and announcements so that she can stay organized and informed about important course updates.

C. Behaviors

- **Tech Usage**: Fiona is comfortable using apps and digital platforms but is new to using a learning management system like Blackboard. She prefers an intuitive UI which should also be mobile-friendly interfaces so she can check updates on the go.
- **Task Management**: Fiona regularly checks her assignment deadlines and grades through Blackboard and sets reminders for herself. She appreciates apps that are instinctual and straightforward.
- **Learning Style**: Fiona likes to study in groups and often uses Blackboard's collaborative tools, such as discussion boards and shared documents. She also likes having easy access to lecture slides and readings in one place.

D. Challenges/Pain Points

1. Overwhelmed by New Tools

Being a first-time college student, Fiona finds it overwhelming to learn new tools like Blackboard while adjusting to college life. She needs the app to be user-friendly and provide clear guidance on how to use its features.

2. Time Management

Fiona struggles with managing her time effectively and wants Blackboard to help her stay on top of deadlines by giving her easy access to her assignments and their due dates.

3. Previewing Assignment before Submission

One of the challenges Fiona faces is the need to **preview assignments before submission**. As a first-time college student, Siona worries about submitting assignments incorrectly or missing important details. She often feels uncertain about formatting, attached files, and whether she has met all the requirements. Without a clear and user-friendly way to preview her work, Siona fears making mistakes that could affect her grades. Having a robust preview feature within Blackboard would give her the confidence to review her assignments thoroughly and ensure everything is correct before hitting "Submit."

E. Context

• When: Fiona uses Blackboard throughout the day, from checking updates before class to reviewing her progress in the evening. She primarily accesses the app on her laptop but frequently checks it on her phone during breaks.

- Where: Fiona uses Blackboard both in her dorm room and around campus. She appreciates the flexibility of being able to log in on multiple devices and stay connected with her coursework.
- Why: Fiona uses Blackboard to keep track of her assignments, grades, and communications with professors. She also uses it to submit her assignments according to the deadline. She relies on the platform to stay organized and feel confident in her first year of college.
- **How**: Fiona interacts with Blackboard by checking announcements, participating in discussion boards, downloading course materials, and submitting assignments. She also uses the app to communicate with her professors and TAs when she needs clarification.

2) Proficient Professor Peter



"Blackboard helps me stay organized, but I wish it were more intuitive for both grading and student interaction."

Attributes:

- Tech-Savvy but Cautious
- Structured and Methodical
- High Attention to Detail
- Student-Centered Approach
- Strong Communication Skills
- Prefers Traditional Teaching Methods but Adapts

A. Background:

Professor Peter, aged 50, has been teaching Political Science at UT DALLAS for over 11 years. He is passionate about making his lectures engaging and helping students think critically. With experience in both traditional and online learning, Peter has embraced technology to enhance his courses, but he sometimes finds it challenging to stay updated with new platforms like Blackboard. Outside of work, he enjoys reading historical novels and playing chess with his colleagues. Peter is methodical and values structure, both in his lectures and his use of educational tools.

A Day in the Life of Professor Peter

7:30 AM:

Peter begins his day by reading the news and checking his email for any important updates from the university or his students. He jots down notes for the day in his physical planner, preferring the tactile feel of pen and paper.

9:00 AM:

Peter arrives at his office and logs onto Blackboard to review the discussion boards and respond to any student queries. He takes a few minutes to ensure the week's course materials are uploaded correctly and checks for any grading that needs to be done.

11:00 AM:

In class, Peter gives a lecture on political theory, seamlessly integrating videos and slides from Blackboard. He encourages students to participate in the discussion forum after the session to further analyze the material.

1:00 PM:

During lunch, Peter meets with a colleague to discuss strategies for improving student engagement in the online learning environment. He shares his experiences with Blackboard, noting both the benefits and occasional challenges in managing large class sizes.

3:00 PM:

Back in his office, Peter holds virtual office hours for students who need extra help. He uses Blackboard's video conferencing tool allows him to provide one-on-one support without requiring students to come to campus.

5:00 PM:

Peter finishes grading assignments submitted through Blackboard, using the rubrics he created to streamline feedback. Before wrapping up his day, he updates the syllabus and adds new reading materials to the course module.

B. Goals

1. Efficient Grading and Feedback

Peter wants to streamline grading large volumes of assignments while providing detailed and constructive feedback through Blackboard's grading tools.

2. Seamless Course Management

Peter seeks a platform that allows him to manage assignments, upload course materials, and monitor student progress without technical hiccups.

3. Improved Student Engagement

He aims to foster meaningful online interactions among students through discussion boards and collaborative tools within Blackboard.

4. Better Time Management

Balancing teaching with administrative duties is a challenge. Peter needs an app that helps him stay organized with features like reminders, scheduling, and deadlines for assignments and tasks.

C. Behaviors

• Routine Task Manager

Peter typically checks Blackboard in the mornings and afternoons for student queries, assignment submissions, and updates. He uses it daily but prefers to keep technology simple and effective.

• Loves Structured Learning

Peter organizes his course modules meticulously, ensuring each week has clearly outlined objectives, reading materials, and assignments uploaded to Blackboard in advance.

• Tech Adaptation

Although Peter is not a digital native, he's become adept at using tools like Blackboard for teaching and grading. He often consults tutorials to stay updated.

• Focused Communication

Peter uses Blackboard's communication tools to send announcements, reminders, and feedback, but he prefers face-to-face discussions or virtual office hours for in-depth conversations.

D. Challenges/Pain Points

1. Complex Grading Interface

Peter often finds Blackboard's grading system unintuitive, making it time-consuming to enter grades and provide feedback on assignments.

2. Student Interaction

He struggles to replicate the in-classroom engagement in online discussion forums and finds that students often do not participate actively in them.

3. Technical Hiccups

Peter occasionally experiences technical issues with uploading files or accessing student submissions, which disrupts his workflow and takes extra time to resolve.

4. Time-Intensive Content Management

Preparing and uploading content onto Blackboard, especially multimedia resources, can feel tedious, especially when he has multiple courses to manage.

E. Context

When

Peter uses Blackboard multiple times a day: in the morning for course prep, after lectures for updates, and in the evening for grading assignments or preparing the next day's lectures.

• Where

He typically uses Blackboard in his university office on his desktop but also accesses it on his laptop from home for grading and student queries. Occasionally, he uses the mobile app during meetings or events.

• Why

Peter relies on Blackboard to organize his courses and facilitate student learning efficiently. The system allows him to deliver materials and monitor student progress, all in one place.

• How

Peter interacts with Blackboard by creating modules, setting up assignments, grading, and monitoring student participation in discussions. He also uses the platform to communicate important course updates and feedback to students.

3) Graduate Teaching Assistant Tiwari (TA Tiwari)



"Managing assignments and student queries while keeping track of my own coursework is a challenge, but Blackboard's tools help me stay on top of everything, even when things get hectic."

Attributes:

- Tech-Savvy and Organized
- Problem-Solver
- Multi-Tasker
- Student-Centered
- Strong Communicator
- Time-Management Focused

A. Background

Tiwari, aged 28, is a graduate student pursuing a master's degree in Computer Science at UT Dallas while also serving as a teaching assistant (TA) for undergraduate programming courses. He is tech-savvy and highly proficient with online learning tools like Blackboard, as well as programming environments. As a TA, Tiwari manages grading assignments, handling student queries, and assisting the lead professor in course management tasks. Outside of his academic responsibilities, he enjoys coding, attending hackathons, and playing strategy-based games. Tiwari is dedicated to supporting students in their academic journey and sees his role as a TA as

an opportunity to build his teaching experience. He values efficiency and structure in both his academic and professional responsibilities.

A Day in the Life of Graduate Teaching Assistant Tiwari

7:00 AM:

Tiwari begins his day by quickly checking his emails and Blackboard notifications on his phone to ensure there are no urgent queries from students or grading requests pending. He also reviews his own course workload, making mental notes of tasks to tackle later.

9:30 AM:

After attending his graduate seminar, Tiwari heads to his shared TA office, where he logs into Blackboard to review the assignments submitted by the students from the previous day. He starts grading, using rubrics provided by the professor, and provides detailed feedback on coding assignments.

11:00 AM:

Tiwari holds his TA office hours, where students can either come to the office or book virtual slots through Blackboard. Most students seek clarification on assignments or concepts discussed in lectures. Tiwari explains key concepts, helping students troubleshoot their programming projects.

2:00 PM:

Tiwari attends the undergraduate programming lecture to assist the professor with any technical issues and answer real-time student questions during the class. Afterward, he stays behind to help students who need further assistance.

4:00 PM:

Back in the office, Tiwari compiles a list of common student issues or questions from the class, posting an FAQ on Blackboard to help students with similar challenges. He also uploads study materials and ensures upcoming assignments are scheduled correctly.

7:00 PM:

After completing his own coursework, Tiwari logs back into Blackboard to finish any remaining grading and check if any student queries have come up. Before calling it a day, he cross-checks his calendar to ensure all grading deadlines and student meetings are on track.

B. Goals

1. Efficient Grading and Feedback

Tiwari aims to streamline the grading process, ensuring that he can evaluate assignments and provide feedback promptly and consistently.

2. Enhanced Student Engagement

He wants to facilitate student interactions, ensuring that students feel comfortable asking questions and receiving support through discussion boards and office hours.

3. Seamless Task Management

Balancing his role as a TA with his graduate studies, Tiwari needs a system that allows him to toggle easily between his own coursework and TA responsibilities without missing deadlines.

4. Clear Communication

Tiwari seeks to keep students informed about assignment updates and important course information through announcements and FAQs on Blackboard, reducing confusion and repetitive questions.

C. Behaviors

1. Task Prioritization

Tiwari uses a combination of Blackboard tools and personal organization methods to stay on top of grading, his own coursework, and student queries.

2. Frequent Platform Usage

He logs into Blackboard multiple times a day, both for managing TA tasks and for accessing his own class materials.

3. Collaborative Approach

Tiwari works closely with the lead professor and proactively communicates with students to ensure they are up-to-date and receiving the help they need.

4. Tech-Savvy Problem-Solver

Tiwari is adept at using digital tools to troubleshoot issues, whether it's helping students navigate technical problems or managing course materials.

D. Challenges/Pain Points

1. Balancing Dual Roles

Switching between the roles of student and TA can sometimes feel overwhelming, and Tiwari seeks an easier way to toggle between his different tasks on Blackboard.

2. Time-Consuming Grading

While grading, especially for large classes, can take up significant time, Tiwari wishes for more streamlined processes for reviewing and providing feedback on assignments.

3. Student Engagement

Getting students to actively engage in discussion forums or to attend office hours is a challenge, and Tiwari is looking for creative ways to encourage participation.

4. Overwhelming Workload

Tiwari is managing his own academic workload alongside his TA duties, making it essential for him to keep everything organized and avoid missing deadlines.

E. Context

- When: Tiwari accesses Blackboard early in the morning for a quick check-in, during his office hours for student interactions, and again in the evening for grading and course updates.
- Where: He primarily uses Blackboard on his laptop in the TA office or at home but also checks it on his mobile device between classes or meetings.
- Why: Blackboard helps Tiwari manage his dual roles as both a TA and a student, streamlining the grading process, communication, and access to course materials.
- **How**: Tiwari interacts with Blackboard by grading assignments, posting FAQs, setting up office hours, answering student questions, and tracking his own coursework progress.

User Stories:

1) Freshman Fiona

User Story 1: As a first-time college student, I want to easily navigate the course materials section so that I can quickly find and study the resources I need for my classes.

Acceptance Criteria:

- a. The course materials are organized by week and topic.
- b. I can filter materials by type (e.g., lectures, readings, assignments).
- c. There is a clear navigation menu that allows me to access different courses easily.

User Story 2: As a first-time college student, I want to participate in discussion boards for my classes so that I can engage with classmates and enhance my learning experience.

Acceptance Criteria:

- a. I can easily find and join discussion boards for each course.
- b. I can post questions and respond to my peers' posts without difficulty.
- c. There are notifications for new replies or updates in discussions.

User Story 3: As a first-time college student, I want to receive notifications about upcoming deadlines and announcements so that I can stay organized and informed about important course updates.

- a. I receive alerts for assignment deadlines, grades, and course announcements.
- b. Notifications can be customized based on my preferences (email, app notifications).
- c. I can access a summary of all notifications in one place.

2) Professor Peter

User Story 1: As a faculty member, I want to easily organize and upload my course materials so that I can create engaging and accessible content for my students.

Acceptance Criteria:

- a. I can upload files in various formats (PDF, Word, PowerPoint) without any issues.
- b. There is an option to categorize materials by week or topic.
- c. Students can access the materials without any navigation challenges.

User Story 2: As a faculty member, I want to provide constructive feedback on assignments submitted by students so that I can help them improve their performance.

Acceptance Criteria:

- a. I can leave comments directly on the submitted assignments.
- b. There is a section for overall feedback that students can easily access.
- c. I can grade assignments using a rubric to ensure consistency.

User Story 3: As a faculty member, I want to create interactive discussion boards for my students within Blackboard, so that students can engage more actively with the course content and with each other, enhancing participation and critical thinking.

- a. I can create and customize discussion boards with specific topics and prompts for students to respond to.
- b. I can design polls with multiple-choice or open-ended questions to gauge student understanding or opinions.
- c. I receive a summarized report of discussion engagement and poll results to help me assess student participation and identify areas needing further discussion or clarification.

3) TA Tiwari

User Story 1: As a graduate teaching assistant, I want a centralized platform for managing student queries so that I can respond to questions efficiently without losing track of inquiries.

Acceptance Criteria:

- a. There is a dedicated section for student messages and questions.
- b. I can categorize queries by urgency and subject matter.
- c. I receive notifications for new messages to ensure timely responses.

User Story 2: As a graduate teaching assistant, I want an easy way to switch between my roles as a student and a TA so that I can manage my responsibilities without confusion.

Acceptance Criteria:

- a. I can seamlessly switch profiles between student and TA roles.
- b. Each profile retains its own dashboard and to-do list.
- c. I can view both course materials and TA responsibilities without logging in and out.

User Story 3: As a graduate teaching assistant, I want to access and grade assignments submitted by students so that I can help provide timely feedback and support the professor.

- a. I can view all assignments submitted for my courses.
- b. There is a grading interface that allows me to leave comments and assign grades.
- c. I can track which assignments I've graded and which are pending.

UX Enhancement:

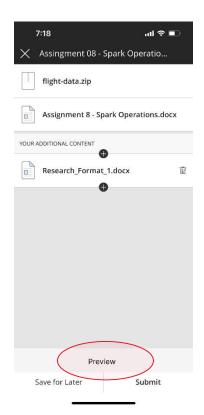
1) File Preview before Submission

Chosen Screen for the redesign: Submission Page

The chosen screen for redesign is the **submission page** within the Blackboard Ally app. The current submission interface allows users to attach files but lacks a **file preview feature**, which is critical to ensuring accuracy. Students often face issues such as mistakenly uploading the wrong file, not being able to verify content before submission, and the inability to correct mistakes if the professor has disabled multiple submissions.

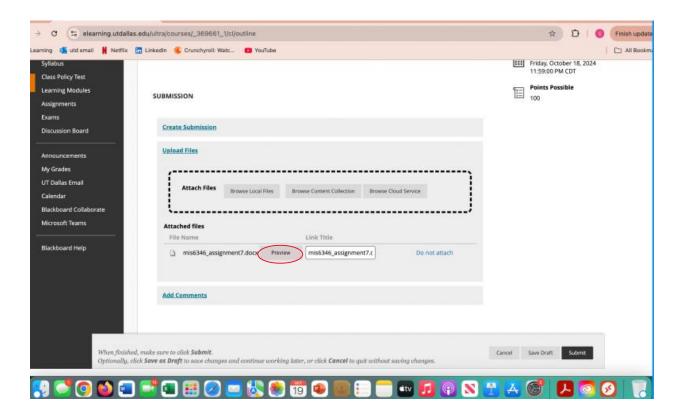
The redesigned submission page includes a **file preview option** that appears next to the uploaded file, allowing students to open a pop-up window for review. This enhancement improves the user interface by providing clarity, reducing errors, and offering students confidence that they have submitted the correct document.

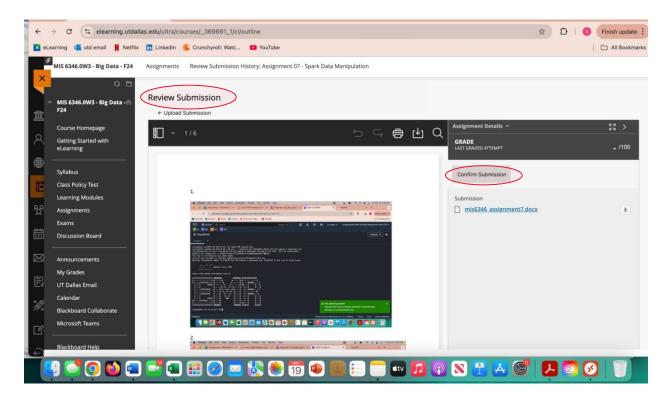
Mobile Device UI





Website UI





User Stories Based on the Redesigned Submission Page

1. User Story 1: Verifying Content

As a student, I want to preview the file I have uploaded before submission, so I can ensure the content is correct and appropriately formatted.

Acceptance Criteria:

- a. The "Preview" button appears next to the uploaded file.
- b. Clicking "Preview" opens a pop-up that displays the document content.
- c. The pop-up allows scrolling, zooming, and viewing of the entire document.
- d. Students can exit the preview and re-upload the file if necessary.

2. User Story 2: Avoiding Wrong Submissions

As a student, I want to use the file preview to confirm I've uploaded the intended document, so I don't accidentally submit the wrong file, especially when multiple submissions are not allowed.

Acceptance Criteria:

- a. A "Preview" button is available immediately after file upload.
- b. Students can see the exact content of the uploaded file before final submission.
- c. If errors are identified during preview, students can re-upload a new file.
- d. The "Confirm Submission" button activates only after preview completion.

3. User Story 3: Supporting Submission Accuracy

As an instructor, I want students to preview their files before submission, so there are fewer errors and fewer requests for resubmission due to wrong file uploads.

Acceptance Criteria:

- a. The preview feature is available to all students in all courses.
- b. Students are prompted to preview the file before the "Confirm Submission" button activates.
- c. The platform tracks if a preview was used, providing insights to instructors.

Framework for Measuring and Assessing the Feature's Value

To evaluate the effectiveness of the file preview feature, the following framework will be used:

1. User Feedback and Surveys:

- a. Conduct student surveys post-implementation to gauge satisfaction with the new preview feature.
- b. Ask targeted questions about ease of use, reduction in submission errors, and confidence in the submission process.

2. Error Reduction Rate:

- a. Track the number of incorrect submissions before and after the feature's implementation.
- b. Measure the percentage decrease in submission errors and analyze whether this feature significantly reduces mistakes.

3. Submission Log Analysis:

- a. Analyze data on whether students use the preview feature before submitting assignments.
- b. Track the number of times students re-upload a file after previewing it, indicating the effectiveness of the feature in preventing errors.

4. Instructor Feedback:

- a. Collect feedback from instructors regarding the number of resubmission requests they receive.
- b. Determine whether the feature has reduced administrative efforts related to handling incorrect submissions.

How This Feature Meets User Needs

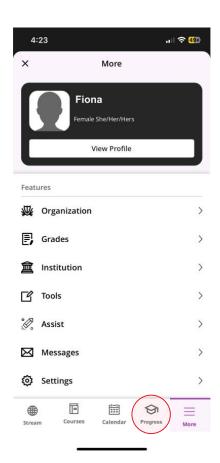
The file preview feature meets user needs by providing an essential verification step, ensuring that students can confirm the content and format of their files before final submission. It prevents common errors like submitting the wrong document, which is especially important when professors have disabled multiple submissions. By offering this functionality, the redesigned submission page aligns with the core principles of user-centered design, prioritizing accuracy, confidence, and a smoother submission experience.

2) Academic Progress

The redesigned screen for the **academic progress bar** has been integrated into the main dashboard of Blackboard. The original interface lacked a direct visual representation of a student's progress toward degree completion, forcing students to look at their syllabus, orion and coursebooks to check their degree progress. This can be time-consuming and might cause hurdles for students choosing subjects causing obstacles in degree completion.

The new **academic progress bar** offers a visual, at-a-glance summary of completed, in-progress, and pending requirements for graduation. It uses a combination of a pie chart and progress bars to clearly display core course completion, elective course progress, and overall credit percentage.

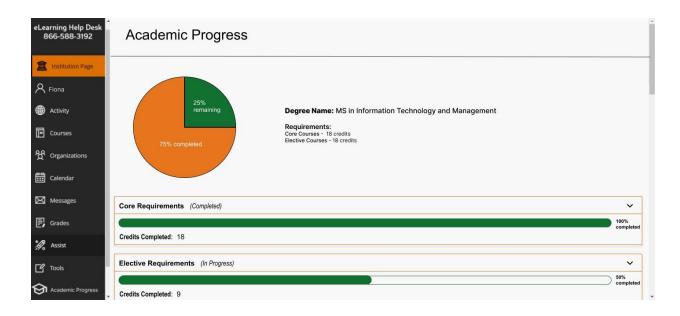
Mobile Device UI





Website UI





User Stories Based on the designed Academic Progress Meter

1. User Story 1: Visualizing Progress

As a student, I want to see a degree progress meter on my dashboard, so I can quickly understand how far along I am toward graduation without having to navigate through multiple pages.

Acceptance Criteria:

- a. The progress bar is visible in the main menu.
- b. It shows the percentage of completed credits vs. total credits required for graduation breaking them down into core and elective courses.
- c. Clicking the meter provides a detailed breakdown of completed, in-progress, and pending courses.
- d. The progress meter automatically updates when new grades or credits are posted.

2. User Story 2: Planning Course Registration

As a student, I want to use the degree progress meter to help me plan my course registration, so I can ensure I'm taking the right courses to stay on track for graduation.

Acceptance Criteria:

- a. The progress meter links to a course planning tool that displays remaining required and elective courses.
- b. A checklist shows which courses are needed for completion, with an option to mark priority courses.
- c. Students receive alerts when they are at risk of falling behind based on their progress.
- d. The meter is color-coded, with green indicating completed courses and red highlighting critical requirements.

3. User Story 3: Engaging with Advisors

As an academic advisor, I want to access the student's degree progress meter, so I can better guide them during advising sessions and help them graduate on time.

- a. Advisors can view the student's progress meter during advising sessions.
- b. Detailed data about core and elective course completion is visible to advisors.
- c. Advisors can leave notes on the progress meter for the student to review.
- d. Students can request advising appointments directly from the progress meter screen if issues are identified.

Framework for Measuring and Assessing the Feature's Value

To evaluate the effectiveness of the degree progress meter, the following framework will be used:

1. User Feedback and Surveys:

- a. Conduct surveys to measure student satisfaction with the new progress meter.
- b. Gather feedback on whether the visual representation has motivated students to stay on track and how easy it is to interpret the information.

2. Increased Engagement:

- a. Track how often students interact with the progress meter, including clicks and time spent reviewing their progress.
- b. Monitor whether students use the detailed course breakdown to make informed decisions about course registration.

3. Improved Graduation Rates:

- a. Analyze whether there is an improvement in graduation rates or reduced time to degree completion after implementing the progress meter.
- b. Assess whether students register for courses more strategically based on progress meter insights.

4. Advising Efficiency:

- a. Collect feedback from advisors to determine if advising sessions are more efficient and targeted, reducing the need for students to make repeated visits.
- b. Analyze whether the number of off-track students decreases due to early interventions based on the progress meter.

How This Feature Meets User Needs

The **academic progress bar** directly addresses student and advisor needs by providing a clear, visual overview of academic progress. This feature encourages timely course completion by making degree requirements more transparent and accessible. It helps students stay motivated and aligned with their academic goals, while also aiding advisors in delivering more effective guidance. By offering this enhanced functionality, the redesign improves the user experience by making the path to graduation more visible and actionable.