

ClassNest

Your Secure Hub for Seamless Learning



SOFTWARE DESIGN AND IMPLEMENTATION

ENPM - 613

USER MODELS AND UI PROTOTYPE

TEAM -11

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PERSONAS

1. Persona: Typical User

Persona: Steve, a dedicated university student actively pursuing multiple courses on the ClassNest platform.

Goal: Steve wants to enroll in a new course and assess himself in an introductory quiz.

◆ **Motivation:**

Steve is eager to deepen his understanding of Organic Chemistry as he plans to pursue a master's degree in the field. He seeks a suitable course that will provide him with the essential concepts and knowledge he needs to excel in his studies.

◆ **Needs:**

Register For Courses: Steve requires the platform to allow him to easily browse and explore available courses. He wants to review course content and prerequisites to make an informed decision about enrollment.

Upon deciding to register, he expects a straightforward registration process that grants him immediate access to course materials.

Access Course Materials: Steve desires quick and seamless access to all course materials, including lecture notes, slides, and multimedia resources. This accessibility is crucial for his study routine.

◆ **Preferences:**

→ **User-Friendly Interface:**

An intuitive and easy-to-navigate user interface is essential for Steve to ensure a smooth and engaging learning experience.

→ **Progress Tracking:**

Steve wants a robust system for tracking his progress throughout the course. He values features that allow him to view completed modules, pending assignments, and overall progress toward course completion.

→ **Communication with Instructors and Peers:**

He prefers a platform that facilitates effective communication with both instructors and fellow learners. Options like discussion boards and group messaging are important for addressing his queries and engaging with the learning community.

→ **Assignment Submission:** Steve needs a clear and efficient process for submitting assignments. He appreciates systems that provide confirmation of submissions and constructive feedback on his work.

Scenario: Course Enrollment and Quiz Completion

1. **Login:** Steve logs into ClassNest using his university credentials, gaining immediate access to the platform.
2. **Browse Courses:** After logging in, he explores the available courses, filtering based on his interests (e.g., Organic Chemistry).
3. **Enroll:** Steve selects a course, reads the detailed description, and clicks the "Enroll" button to register.
4. **Access Modules:** Upon enrollment, he is directed to the course dashboard, where he can access all learning modules. He reviews the first module's materials, which include videos and reading assignments.
5. **Take a Quiz:** After studying, Steve clicks on the quiz link to assess his knowledge. He completes the quiz and submits his answers.
6. **View Results:** ClassNest grades the quiz and presents Steve with his results, including feedback and areas for improvement.

User Experience:

Steve is an academically motivated individual who arrives at the ClassNest eLMS platform with a keen interest in mastering Organic Chemistry concepts. Upon entering the platform, he encounters a **user-friendly interface** that facilitates easy navigation through course offerings. He **identifies a course** that aligns with his goals and successfully **enrolls**, landing on his personalized **dashboard** that displays enrolled courses and immediate **access to course** modules. Now that he's officially enrolled, Steve can engage with the **content**, complete assignments on time, and deepen his knowledge in Organic Chemistry.

2. Persona: Special User

Persona: Anna, a visually impaired user who uses accessibility features to navigate ClassNest.

Goals: Anna wants to access learning modules using her screen reader.

- **Motivation:** Anna Stark is an undergraduate student at the University of Maryland pursuing her Bachelor of Arts in Linguistics. She is a special user of the ClassNest platform who experiences vision impairment. She requires a platform to learn Japanese that best suits her accessibility needs and could provide an easy and interactive platform for her to get started with a new language journey.
- **Needs:**
 - **Accessible Course Registration:** Anna requires an ELMS system that allows her to find and register for desired courses with ease, considering her accessibility needs.
 - **Accessible Course Material:** Anna requires an ELMS system that allows her to access her registered courses with the help of accessibility features like Screen Reader, Keyboard navigation, Voice Command system e.t.c.
- **Preferences:**
 - **Adjustable Settings:** Anna desires a software which allows her to adjust text size, color schemes and contrast for readability & comfort.
 - **Extended Time:** Anna might require some extended time for the completion of her assignments and assessments. The platform must accommodate these preferences based on individual needs
 - **Multi Format :** Anna might prefer accessing the course material in alternative formats like an audio version based on the type of content and situation.
 - **Technical Support:** Anna would definitely prefer a platform that provides dedicated technical support for users with special needs to address accessibility issues and provide assistance when needed.

Scenario: Navigating Course Materials on ELMS with the help of accessibility

- **Steps:**

- **Login:** Anna logs into ClassNest using her voice command system integrated with her screen reader.
- **Navigate Dashboard:** The screen reader reads out the menu options ("Courses," "Assignments," "Profile"). Anna selects "Courses."
- **Access Learning Modules:** The screen reader guides her through the course layout. She uses keyboard navigation to select a module and the screen reader reads out the content.
- **Download Assignment:** Anna uses her screen reader to navigate to the assignments section and downloads the assignment instructions.
- **Submit Assignment:** After completing the assignment, Sara uses the file upload functionality (navigating with her screen reader) to submit her work.
- **Receive Feedback:** Sara receives audio feedback from her instructor through ClassNest, which her screen reader reads aloud.
- **Key Features Used:**
 - Screen reader compatibility
 - Keyboard navigation
 - Accessible content layout

3. Persona: Attacker

Persona: John, a malicious user trying to gain unauthorized access to instructor-only sections of ClassNest.

Goals: John attempts to exploit vulnerabilities to access instructor-only features.

- **Motivation:** John is a motivated hacker who targets ELMS software systems for various reasons, including financial gain, causing disruptions, or seeking revenge. He is driven by the challenge of breaking into systems and exploiting vulnerabilities. His advanced technical skills in programming and hacking, combined with his persistence, keep him focused on achieving his goals, even after facing initial failures.
- **Exploiting Vulnerabilities:** John is always searching for security vulnerabilities in the system due to outdated software, poorly configured authentication methods e.t.c.

- **Phishing and Social Engineering:** John uses phishing emails, social engineering or create a duplicate page very similar to the ELMS to gain login credentials of the user
- **Financial Fraud:** John could potentially attempt financial fraud by tampering with payment processes or redirecting funds away from the institution for personal gain.
- **Theft of Data:** John's goal is to steal sensitive information from the system, including personal details of students and staff. He might try to sell this data later for his own benefit.

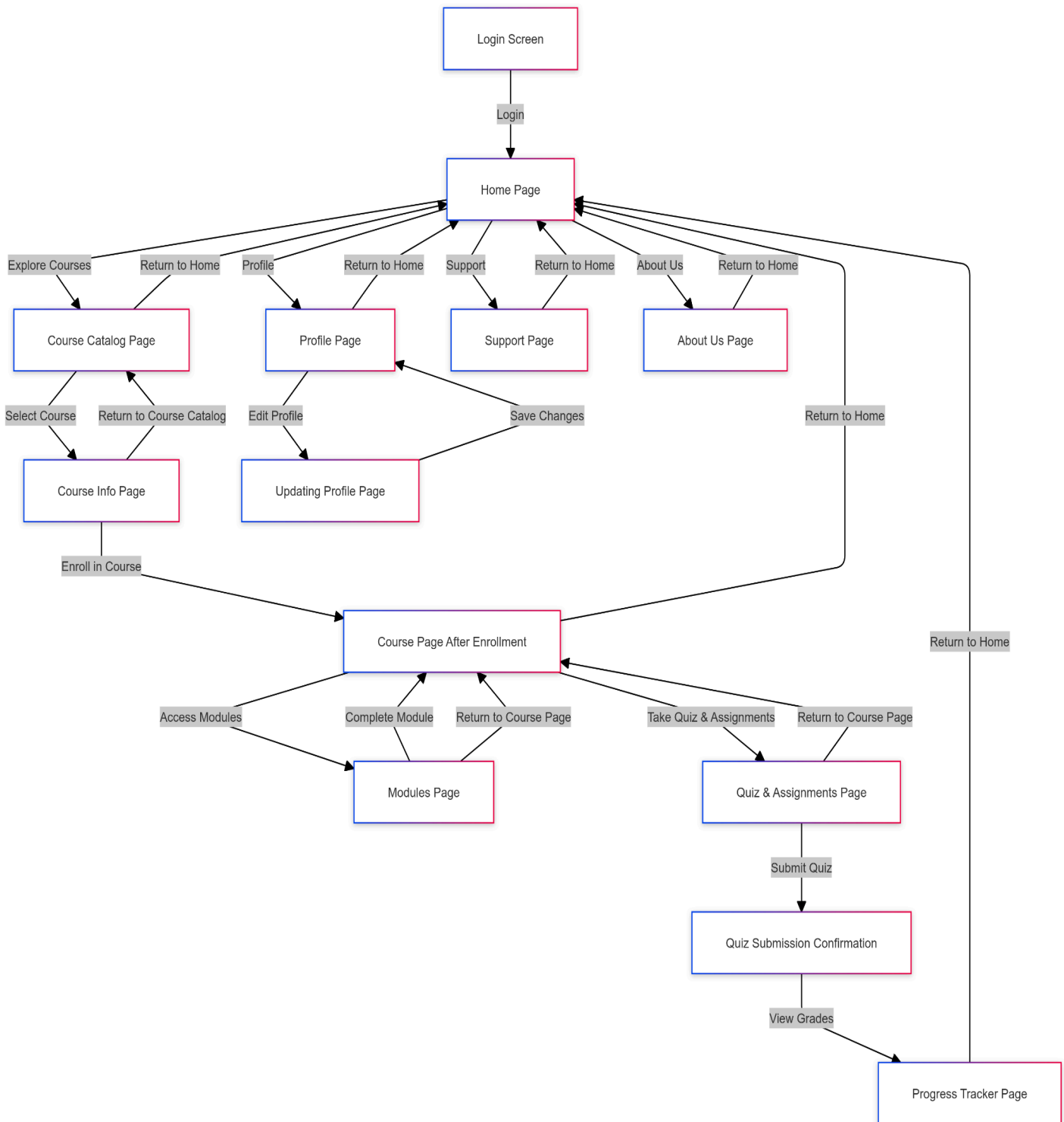
Scenario: Gaining Unauthorized Access to student's profile using a counterfeit website.

- **Steps:**
 - **Phishing Attempt:** John tries to send phishing emails to students, hoping to steal their login credentials.
 - **Counterfeit Website:** A student opens a phishing mail and clicks a link which redirects them to a counterfeit website named "ClassNext" which is identical to the original website "ClassNest".
 - **Captures Credentials:** John then captures the student's credentials which they enter on the counterfeit website.
 - **Unauthorized Access:** John uses the captured credentials to access ClassNest and does malicious activities like tampering with assignment materials, steal course material e.t.c
- **Key Notes:**
 - John primarily uses phishing, privilege escalation, and social engineering to exploit weak spots in the system.
 - His technical skills allow him to discover and exploit vulnerabilities that could lead to major financial and data breaches.

Summary of Scenarios:

1. **Steve (Typical User):** Course enrollment and quiz completion with straightforward navigation.
2. **Sara (Special User):** Using assistive technology (screen reader) to navigate, access materials, and submit assignments.
3. **John (Attacker):** Attempting to exploit vulnerabilities in the system, but thwarted by built-in security measures.

USER INTERFACE FLOW MODEL



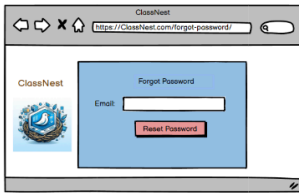
STORYBOARDS

1. Typical Student: Navigating Course Catalog and Enrollment

Persona 1 : Typical User enrolling an course

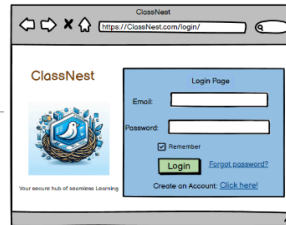
Forgot Password:

- If Steve forgets his password, he can request a reset via email.
- He provides his registered email and receives a temporary password.
- Steve logs in with the temporary password and resets it.



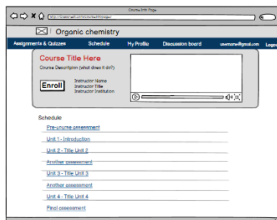
Login Page:

- Steve logs in using his university credentials to access the platform.



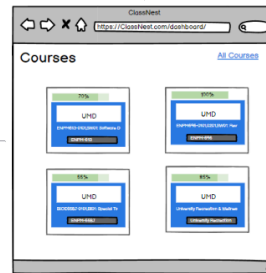
Enroll in Course:

- Steve selects a course and clicks the "Enroll" button.
- An enrollment request is sent to the admin.



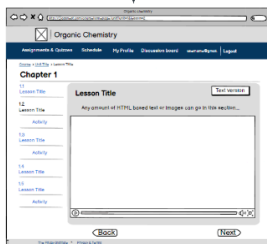
Dashboard - Course Catalogue:

- Once logged in, Steve browses the course catalogue, filtering based on his interests like Organic Chemistry.
- He reviews course content, prerequisites, and detailed descriptions.



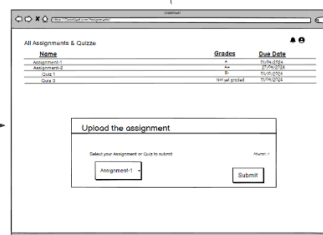
Access Modules:

- Upon enrollment, Steve is directed to the course dashboard, where he can access all learning modules.
- He reviews the first module's materials, including videos and reading assignments.



Progress Tracking:

- Steve uses a robust system to track his progress throughout the course.
- He views completed modules, pending assignments, and overall progress toward course completion.



View Results:

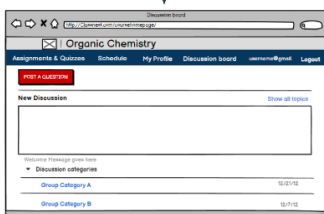
- ClassNest grades the quiz and presents Steve with his results.

Take a Quiz:

- After studying the module, Steve clicks on the quiz link to assess his knowledge.
- He completes the quiz and submits his answers.

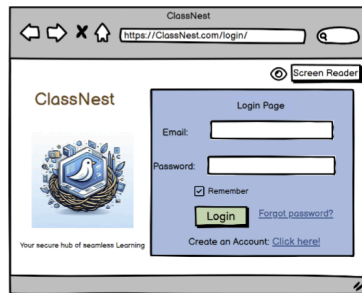
Discussion page:

- Steve engages with instructors and peers through discussion boards and group messaging.
- He receives confirmation of assignment submissions and constructive feedback on his work.



2. Special Needs User: Submitting an Assignment with Accessibility Support

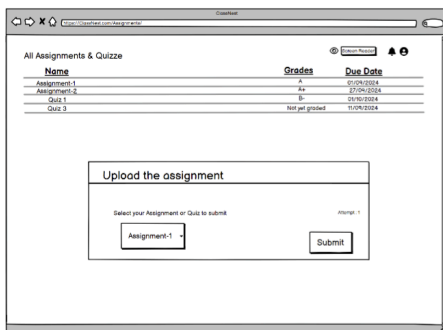
Persona 1 : Accessibility User



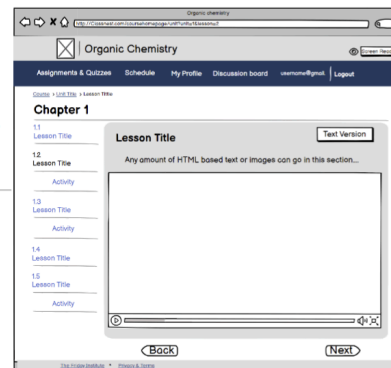
Login Page:
Anna logs into ClassNest using her voice command system integrated with her screen reader.



Access Learning Modules:
The screen reader guides Anna through the course layout. Using keyboard navigation, Anna selects a module, and the screen reader reads out the content.



Working on Assignments:
Anna uses her screen reader to navigate to the assignments section. After completing the assignment, Anna uses the file upload functionality. She navigates with her screen reader and submits her work.



3. Malicious Attacker : trying to gain unauthorized access

Persona 3: Attacker

