

Project report

A. Executive Summary

- The idea for our project is to create a more efficient way for educating learners. People have four different preferences: visual, auditory, reading/writing, and kinesthetic. Instead of teaching all different preferences in one way, as is currently the case, our web application will deploy a different learning course in a different way for each preference. The goal is for a deeper and quicker understanding of course material.

B. Final Requirements and comparison with initial requirements

Similarities:

- The user will be shown a sign up screen where they will sign up and the program will save their username and password in a database.
- The user will then be shown a login screen, where they will login and the program will verify their credentials with the information in the database and let the user login if it matches the username and password, otherwise, an error message will be shown.
- A student will only be able to navigate the course in their assigned learning style.
- Students will be required to take a learning style quiz.
- For Aural learners, the program will provide an audio button which will let the user listen to the course material.
- For Kinesthetic learners, the program will provide instructions on how to do the course assignments with hands-on activities.
- For Reading and Writing learners, the program will provide a note taking text box option so the user can write their notes.
- Save and load progress.

Differences:

- Initial: The program will have its own learning styles quiz and calculate the student's answers and assign the student a learning style.
- Final: The program redirects students to an external learning styles quiz and will assign a learning style based on the learning style selection of the student.
- Initial: Instructors will be shown a sign up screen where they will sign up and the program will save their username and password in a database.
- Final: Did not include the instructor part.
- Initial: Instructors will be given administrative rights to create and add a course and that course's material.
- Final: Did not include the instructor part.

- Initial: The student will participate in a course created for their preferences as an adaptation of the course material loaded in by the instructor.
- Final: The student will participate in a course created for their preferences that is hard coded learning material.
- Initial: For visual learners, the program will provide a highlighting feature where the user can click on the highlight icon and highlight the material. These highlights will be saved for each user.
- Final: For visual learners, the program will provide pictures, graphs, charts, and videos.
- Initial: Print Option for reading and writing.
- Final: no print option for reading and writing.

C. Final timeline and comparison with the initial timeline

- Use Trello to track the project
 - Sprint 1(2/4-2/25)
 - Created a student sign up page/class
 - Created an instructor sign up page/class
 - Create a student login page
 - Database for instructor
 - Create an instructor login page/class
 - Create URL for online database and send to team
 - Database for student
 - Sprint 2(2/26-3/26)
 - Created a page for user to direct them to determine learning style
 - Intro page where the user selects if they are a student or instructor
 - Material for visual learning
 - Created page for visual learning
 - Sprint 3(3/27-4/21)
 - Created a database to store student and teacher information
 - Redirect student that is registered to learning style page instead of quiz
 - Implement multiple choice for user's input that takes them to whatever learning style they put
 - Material for aural learning
 - Material for kinesthetic learning
 - Material for read/write
 - Created pages for read/write, aural, and kinesthetic learning
- With the use of Trello, we were able to follow this timeline and finish our project on time.

D. Project results compared with expectations

- We expected not to be able to complete features for all learning styles, but we did complete features for all learning styles. This is because we got rid of the instructor part since the main idea of this project is student learning, so we focused on that and were able to complete all learning styles.
- We expected to finish a presentable project by the due date, and we finished on time with a complete project.
- We wanted to Implement a Instructor part to the application, but later we decided not to because we thought it was too complicated to do within the timeframe.
- We expected to make the application user friendly, we did this by having user validation for incorrect usernames and passwords, and also good CSS with the help of bootstrap.
- We expected to create our own quiz to determine the user's learning style, but we did not have time for that.
- We expected to create quizzes at the end of each learning style for sure to make sure they understand but we did not have time for that.

E. Software evaluation

- Security Checklist Overview and updated checklist
- Source Code Quality: we made sure the code has a consistent style, is readable, and we also added unit testing.
 - We kept track of coding problems we came across and updates we needed to make in our VARK Time Sheet. This method helped us improve our code quality.
- Usability: We had people in our group test the usability of the application by navigating through it and were able to navigate as we expected.

F. Work to be done

- Expanding the program to where users can have multiple learning styles
- A quiz for users at the end of each learning style
- Creating an instructor class for instructors to be able to login in and upload their own course material.
- Creating our own learning style quiz to determine what learning style a student's fits.
- Creating a highlighting feature for visual learners to be able to use when needed.

- And finally a print option for read/write learners to be able to print out course material.