Criterion A: Planning

(516 words)

The Scenario

Currently, my Chinese class faces a big problem. There is a lack of an engaging practice tool for memorizing words and characters. Currently, notecards and the use of quizlet.com are the most popular methods of studying characters in my school.

Quizlet.com Vocabulary List

However, they are sometimes ineffective for students due to a lack of a sense of competition and boredom while studying off notecards. As such, students aren't engaged enough don't feel compelled to try their hardest in performance in these types of learning tools.

My **client** is Mrs. Ji of the language department. Being my Chinese teacher, she naturally - due to the aforementioned issues - approached me for an interactive competitive game on student character memorization.

Initial Consultation with Client and/or Adviser

On the 2nd of March, I had been in Mrs. Ji's classroom when she talked about the problems that had been faced by her Chinese students. We then discussed potential solutions for her problem. The major notes from the conversation were confirmed through email.

Computer Science IA   Inbox x

to Hua

你好老师!

For my Computer Science IA, I need to record all the conversations I have for the planning of my product. I will just list out ideas we talked about.

- Talk about goal/problem solved by product
  - Aid in student learning of the Chinese language
- Discuss potential ideas for a product
  - Sentence structure application
    -Already done by another student
  - Multiplayer game - can be played among students
-Confirm idea of a form of multiplayer game involving the use of networking, and competition between students.
  - Would likely run on browser and help in student memorization of key words

Please confirm/give feedback to this email so I can use this in my documentation for the product.

谢谢老师
庞安

Ji, Hua
to me

你好庞安!

Thank you for the offer.

The multiplayer game sounds a great idea for students of Chinese.

Thank you!

...

After this, I met the client to specifically define the key outcomes and goals of the application created to clarify the focus of development. An audio recording of this meeting was taken (see Appendix_A_Recording).

The Proposed Product

I am developing a product that incorporates the support of student learning of the Chinese language as in quizlet.com, yet is exciting and encourages all student participation through group competition. My product would be an educational game students play in class. To access the game, it will be hosted on an Apache Tomcat web server. This server allows for all students and teachers to access the application without the need to download anything on their computer. Additionally, hosting the application on a web server allows it to be easily accessible by different students with different screen sizes and operating systems on their computer because of scalable JSP/HTML pages. Apache Tomcat specifically has strong support for Java Servlets, a language which I have experience in and can easily handle user requests and response management. There will be a web page dedicated for control management by a teacher, and then the standard menu for students to join a game.

The control management for the teacher-dedicated webpage will consist of a menu to start games, create quiz sets, and delete quiz sets. The quiz sets would be stored using JSON objects in a file on the server system. JSON is used because it is a recognised and simple text markup language that lots of programming languages have library support for. Storing the data persistently using a file means that its data containing quiz sets will never be lost even on server reset. Students then answer questions from the selected quiz set and are notified for correct/incorrect answers. As they do so, the host client which is connected to a projector, projects the current state of the game with the top student's progress displayed to encourage competition and effort among students. This specifically solves the problems outlined previously wherein notecards and quizlet.com lack a sense of competition.

Specific Performance (Success) Criteria

1	When the game starts, each participating student is given the first question from the teacher-selected question set to answer, then the next questions in order.
2	Game gives immediate feedback to students on whether their answer was correct or not.
3	Indicate the ranking of top three players as the game progresses.
4	Upload question sets to be saved by the server system.
5	Delete unneeded question sets from server system.
6	Use question set saved on server system to start quiz game.
7	Each student's individual score is shown to them upon game completion.