Goal Learning

IDP Project 2 – Team D

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Problem

Create a multiple-choice e-learning tool for the Palm Pre which takes into consideration users with disabilities.

Personas

Jennifer Stout

http://www.flickr.com/photos/yourdon/3589038194/
10:39, Sunday September 20, 2009

Jennifer Stout is a 30 year old specialized Pharmacist, who has worked in the field for 4 years and has recently moved into an apartment in Manhattan. She would say her move was “against her better judgment” because it is a three hour round trip subway commute. But she tolerates the commute because she is invested on both sides of the spectrum—work and home. She works at Joint Disease Hospital, in Lower East Side, New York. She would say she is “doing what she loves to do with the people she has built relationships with”. On the other hand, she loves her apartment, especially after living in a small shack to pay off school debt. One of her many upgrades, since her school loans were recently paid off, was the retirement of her barely usable flip phone razor. She wanted to upgrade but not just for the fun ipod/qwerty features but to assist with her work life. She loves the luxury she can now afford and she gets to share it with her dog Ben and Joey. Joey, a contractor (who understands work life) lives across the

hall. He has introduced flavor into Jennifer's busy life but he has also addressed concerns. They've discussed seeing their relationship grow, but he has pointed out that she is giving too much time to work when she is at home—leaving no time for fun. She knows how work has consumed her life in the past and she heeds his advice. She is trying to figure out how to balance life, a significant other, a dog and the pharmaceutical world—with all its research, current events and updatable exams to stay fresh. In the midst of figuring it all out, Joey and Ben are both being patient.

David Kalpani

http://www.cyberhomes.com/content/libraries/blog_pictures/male_college_student_small.sflb on 9/26/2009

Meet David Kalpani, he is a senior business major at Boston University . He is thinking about going to law school or business school. He is studying for the Kaplan test for both the GMAT and the LSAT. He plays rugby and is a member of Sigma Chi fraternity and is the treasury secretary for the for the fraternity council. When not involved with the fraternity or members of his rugby team he is studying for classes and or studying for one of the pre-professional exams. He is single and has little time for a love life. He loves sea food but because he has little or no money to spend on such he rarely indulges in such treat. His dad is a high power attorney in Boston and is pushy and wants his son to be successful like him. He has the palm pre and doesn't like the apple fan club that everyone else is into. He takes his pre to class with him and pretty much wherever he goes.

Design Rationale

Question Screen

When we began thinking about how to make a simplistic style for the question which could accommodate long, short, and image imbedded questions we believed providing a full page for the question would make it most efficient and simplistic for our user. For the longer questions we also decided to insert a hovering arrow that was in a bubble that gave an intuitive instruction to scroll down to view more.

At the top of that page we inserted the question and number they were on out of the total (i.e. Q1 out of 20). We thought that this set up would allow the user to gage how far they are in the process, being that we were trying to accommodate busy learners; both student and professional.

For the transition we wanted to carry over features already imbedded in the PalmPre. From our research PalmPre users were comfortable with the swipe gesture which allowed the person to move to the next page. Therefore we inserted a swipe option we did not show any imagery for this believing that the user would do so intuitively.

Answer Choice Screen

The illustration of the answer screen is a soccer field. There is a goal situated at the top of the screen and each letter choice is in the front of a soccer ball. At the bottom right corner, of the user, there is an image of a soccer player. The answer choices are separated by lines and there is a hovering arrow at the bottom left if the question has more answer choices than there is room on the screen.

We went with the soccer metaphor to make the learning experience fun and memorable. We chose the vertical answer layout with the soccer ball behind it to maintain the commonly known process of exam layout but introduce a computer imaginative element as well. We wanted to provide a way to show answer choices at all times and not just the letters or symbols associated with them. We imposed this constraint to benefit the user. We understood that users learn better with the screen change from question to answer, however, we did not want to over complicate the process by forcing the user to press each

consecutive option to get the answer behind the choice (i.e. only showing “A” and pressing the letter to see the answer for instance “red”).

Answering Process

Continuing with the metaphor of the soccer game when the user found an option that they wanted they could simply touch or “swipe-up” the ball or any part of the answer choice. When the user “swiped-up” the answer choice would go in front of the goal. We chose to allow the balls to sit at the top of screen until a “submit” option was initiated in order to allow the user to pick multiple choices and enable feedback to come at one single time keeping the process clear.

If the user wanted to “get rid” of an answer choice they could use the Palm features of swiping right the option choice which would move the answer out of its place and it would rest shaded at the bottom of the list. They could also scratch out a choice with the scribblely line (as in on a paper exam) or they could simply put a line through it with their figure. We chose to use these “get rid” methods to make the experience fun, eliminate unneeded options to see what was most important and to use was that were familiar to the user through paper exams.

Submitting

As answer choices began to be highlighted the icon of the soccer player had the parameter highlighted. This is a common illustration on the PalmPre to unlock the phone. We thought this would be intuitively understood that you can pull on that player as in the ball to unlock. As you pull on the player upward he would begin to run and go to kick the ball.

Feedback Method

There would be three different options from this point:

All Right

If the answer was totally right we would have the soccer player kick the balls and then the goal would light up and the word “goal!” would pop up on the screen. Quickly after that a score board would drop down in front of the goal and it would show “GET INFO” in score board red letter style. The user could tap that box and find more information about their correct answer.

We wanted to provide them with the reward of a goal sign at the completion of their question to keep the user engaged throughout the learning process. We also wanted to take advantage of the soccer metaphor and incorporate a score board illustration and lettering to give additional feedback to the user.

Partly Right

If the user did not pick enough answer choices and dragged out the soccer player. The kicker would run to the top of the screen and then turn around and face the user with a soccer ball to the side of him (number of soccer balls would be based on how many answer choices are missing) the soccer ball that would emerge would also have a question mark in the area where a letter would be. The score board would drop down until the user made an answer choice after this point just in case they need assistance with the understanding of the question marked ball or additional information.

We thought that this system of the question mark with the ball would challenge the user to find the ball that is missing without too many directions.

Wrong answers

If the user picked multiple answers and part was right and part was wrong. The part that was wrong would bounce off the rim of the goal and back down to its original position.

We chose this system of rejecting an answer choice because it would be more fun than negative. We wanted the user to see through a simple illustration that their answer did not work and give them the option to try again. Being that this was a learning tool we wanted it to be as interactive as possible.

User Testing

Introduction

Our prototypes were made and the usability test were carried out at the IUB main library in the information commons. The researchers cam prepared with candy and positive out going personalities to engage passerbys at the information commons. It did not take long to briefly

introduce ourselves to the subjects and engage the subjects into the usability test.

The test were difficult to conduct due to the raw number of interface screens that needed to be shown to the users. The researchers had to be very quick to show the subjects the screen in order to not disturb the flow of the questioning with the subjects. The overall study time was about 5 – 10 minutes. A total of three different group members performed the usability test. After each test was performed the group reconvened at a home base to discuss the study.

The study has shown the researchers that there is much room for improvement in regards to the usability test. Each researchers gained however, a better understanding of the user's needs and limitations of some or our current designs. Below is a sampling of the notes that were taken during the usability test.

Data and Result of Usability Test

Ice Breaker Questions

1) Tell about ourselves. Explain what the application. Explain that we are testing the interface and not the participant.
2) Explain that they should use the prototype as if it's a real Palm Pre.
3) Ask if they are familiar with the Palm Pre's gestures. If the participant is unfamiliar with these specific gestures, explain them using the prototype.

Tasks and Questions

1) You are studying for an American History final. You've just downloaded and installed the QUIZ application. You have opened the application and have now been presented with this question. What would you do?

   Usability test 1
   Scroll down -→ for answer options. Do you pick all. Or can you touch all or one… understand.

   Usability test 2.
   Tap. A
   A Scroll down…..

Usability 3
Screen 1. Type answer
Answer choice . exp wait what called hype.
Down arrow tap blue

2) Let's say that you were presented with this question and you wanted to get rid of or remove an answer that you know is incorrect. What would you do?

Usability Test 1.
Would flick orange away.
Not obvious if multiple choice
Usability Test 2.
No response
Usability Test 3.
Answer choice . exp wait what called hype.

3) So you answered this question CORRECTLY/INCORRECTLY but now you want an explanation of the answer. How would you get this explanation?

Usability 1.
No data present
Usability 2.
Not data
Usability 3.
R2 tap and then tap answer choice. Press down choose E.
Press guy to submit.
Assume it is a wrong answer

4) After answering a question correctly, how would you get to the next question?

Usability 1.
No data
Usability 2.
Scroll down
Usability 3.
Tap arrow down

Redesign Rationale

According to the results of usability test, we modified our design as following:

Question Screen

Most subjects in the usability test inclined to type the answers directly with PalmPre's keyboard when they were asked to answer the question showed in the prototype. We believe the question screen is not indicative enough to tell the users that it is a multiple choices question or where the answer choices are. We then decided to add an arrow, with a word "ANSWERS" on it, pointing to right at the bottom of the question. This gives users explicit instruction on how to go to the answer choice screen when they finish reading the question.

Answer Choice Screen

In choosing the answers, most subjects did not know the soccer balls were movable. Instead of flicking the answer choices, they tapped them, which was also a valid gesture for choosing answers though. We hope that the users could gain more experiences through flicking the answers as if they were really kicking the balls because our metaphor system aims to provide fun, realistic and memorable learning experience. Therefore, we decided to make the answer soccer balls appear as animation instead of stable pictures in the transition from question screen to answer choice screen. Each ball will fall down from the top of the screen and bounds a little when it gets to its spot, which gives users an impression that it is movable.

Submitting button

When the subjects were asked to submit the chosen answers, most of them could not identify the submit button. We decided to add a little bubble window saying "KICK" besides the little kicker at the bottom right corner because it is commonly known that after placing a soccer ball, the next thing to do is to kick. In our metaphor system, this "KICK" is a consistent and intuitive instruction for the users on submitting what they have chosen.

Feedback Method

There should be one more feedback option when users choose answers including incorrect ones and all the correct ones. For example, A and B are correct answers, David chooses A, B and D. If this happens, all the correct balls (A

and B in this case) will be kicked in and the incorrect balls (D) will bound back to their original positions. Neither the "GOAL!" sign nor question mark balls will appear. Instead, a "TRY AGAIN" sign will come up to tell the users to answer again. We believe that the users will notice they have chosen the correct answers because the balls are kicked in and no more answers are missing because no question mark balls show up. When they answer again, they get the rewarding "GOAL!".

No matter how many times the users answer incorrectly, once they do it right, they will have the rewarding "GOAL!". We believe this rewarding feedback encourages users to be engaged actively in the learning experience.