CS6750 Human Computer Interaction (HCI) Assignment M3

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***Abstract*—Re-design of "*Universal Orlando*" (UO) website booking interface** is the scope of this project. UO is a conglomerate of three separate theme parks with multiple resort style hotels for guests. Current booking interface lets the guests book park tickets (single or multiple), express passes (for priority access to select rides) and hotels separately. Because of this separate booking, the interface fails to help the users realize the benefits of booking park tickets and hotel together (for example, express pass is free with the booking of hotel). In addition, the current interface does not consider the context of the user. Using HCI methods, I will work on re-designing the current booking interface to ensure guests have great user experience booking their vacation at UO.

1 BRAINSTORMING PLAN

From the needfinding exercise M2, I collected data inventory and defined requirements. Using the needfinding results, I will implement individual brainstorming. Below is my brainstorming plan that includes certain rules I will follow and time I plan to allocate:

1. I will not worry if the ideas are good or bad, I will first write them down
2. I will think about how I can utilize gestures/voice/touch/smart watches/augumented reality etc to come up with ideas.
3. I will also think about various audiences like novices/experts/adults etc
4. **I plan to allocate spend 3 hours of my time** a day for 3 alternative days to think and write down ideas. This will ensure that I have a fresh perspective of each time I sit.

I **will move forward** to the next phase of coming with design alternatives either after I come up with 20 ideas or I end up spending 9 hours of time (spanning over 6 days).

2 BRAINSTORMING EXECUTION

I executed my brainstorming plan and came up with the following 11 ideas. I stopped and moved forward as I consumed 9 hours of brainstorming time. Please refer to my criteria for moving forward in section 1 above. Remember that my task is to re-design Universal studios vacation booking interface.

1. A much better **Web interface** than the current one that enhances user experience by providing what the user needs

2. **Chat bot** that lets the user chat to book vacation

3. **AI agent** (For example Maya for Lemonade) which asks questions and based on responses, provides the options and books the vacation user wants

4. A booking **app** for Iphone/android etc

5. **Augumented Reality** application where a sales agent will virtually appear infront of the user and talks to him

6. **Virtual Call Assistant** (like Apple's SIRI) which the user can call and book their vacation

7. **A dedicated hand held device** (like Amazon button) that has buttons for hotel/park ticket/express passes that the user can configure once

8. Usage of **Smart watch** interface

9. **Gesture usage with google glass** for the user to communicate what they want and book vacation

10. Voice input agent

11. User asked to Fill a form with budget, dates, number of visitors etc by the interface and the interface automatically books vacation based on those inputs.

3 SELECTION CRITERIA

Following is my selection criteria to dismiss/select/combine the ideas and finalize 3 ideas that I will take forward to prototype stage. I also added notes on how they relate to the data inventory and requirements I collected from M2 need finding assignment.

1. **Technology readiness level** – My data inventory from M2 suggested that the users are not willing to spend significant to learn the interface. They will suspend booking vacation if they have to learn the interface. So I will only filter the interface ideas that users are very familiar with. For example, users are not used to *Augmented reality* yet so I will dismiss that idea.

2. **Cognitive load low** - My data inventory suggested that most users are pretty relaxed while booking their vacation. For example, they won't book their vacation while jogging on a road with lot of foot traffic. I do not need very low cognitive load because there aren't many things competing with user's attention.

3. **Visuals** - My data inventory suggested that most users want to see prices **visually** before they can add/remove options and book their vacation. It's hard to communicate prices of various booking options through voice or even smart watch (due to lack of screen real estate) so it will be dismissed.

The above 3 criteria cover all the data inventory and defined requirements from need finding. I select the following ideas that I will take forward to prototyping:

1. A much better **Web interface** than the current one that enhances user experience by providing what the user needs

2. **Virtual Call Assistant** (similar to Apple's Siri) which the user can call and book their vacation with feature of it showing prices visually while we speak to it

3. **AI agent** (For example Maya for Lemonade) which asks questions and based on responses, provides the options and books the vacation user wants

4 PROTOTYPE 1

I select 'textual prototype' for design alternative #3 "AI agent" above. Below is the plain text description of the idea.

Textual Prototype Description: "The prototype for Universal Orlando (UO) booking interface will use an AI agent. Its like "Maya" for Lemonade Insurance Company. This AI agent will ask a series of questions in a very logical way and helps the user book vacation at UO. The AI agent will first ask for booking dates and number of guests. Once the User enters the input, the AI agent immediately displays prices for 'Hotel + Park Ticket" and "Park Ticket + Express Pass" and "Park tickets" separately. Based on the needfinding, the Users did want to see all prices before they make a decision to book bundles (for example, Hotel + park ticket is a bundle). Once we select an option, it will ask if we need further customization. If the user selects 'No', then the AI agent takes the user to the payments page to complete the booking. If the user selects "Yes", then the AI agent will ask what options to add or remove from the current booking options. For example, the user can ask AI agent to add "Express Pass" if they want to."

Evaluation from the perspective of requirements I gathered: From M2, I gathered the following requirements. The above interface meets all the below requirements and did not miss any.

> ***Requirement 1.*** The interface should show the prices for the options the user chooses. Once the user determines that the price is in their budget, the interface should show the payment options (credit/debit/paypal).
>
> Note that the above AI agent asks the user for dates and number of guests and immediately proceeds to show prices for all combinations of options possible to help user determine if its in their budget. For this reason, the AI agent met this requirement.
>
> ***Requirement 2.*** Users want to be able to make a booking when they are not at their home/office. For this current case, they want to be able to add an express pass while at park on the go.
>
> Note that the above AI agent asks the user for customization after booking. The user can always pull up the phone and ask the AI agent for

customization of booking to add or remove options. The user can add express pass simply by a click of a button. For this reason, the AI agent met this requirement.

Requirement 3. Users want a better user experience. The current booking interface has too small icons for booking and they are spread apart on the home screen.

The AI agent will provide much better user experience. The user will have to answer a couple of questions and they are provided with all booking options in no time. The user do not need to look for icons of hotel/park ticket etc. to click and book their vacation. For this reason, the AI agent met this requirement.

How well the prototype mesh with the audience described in data inventory:

AI agents like Maya (From Lemonade.com) ask few simple questions that can be answered very easily by the user and provide the information the user like to see. The booking with AI agent will take very less time and cognitive load and likely a good candidate for the booking interface.

Based on my pitch of textual prototype to few users, I got the feedback that the users believe the AI agent will provide a quick and much better booking experience than the current UO booking interface. Therefore, will mesh well with the audience described in data inventory.

5 PROTOTYPE 2

I select 'Verbal prototype' for design alternative #1 "Web Interface" above.

Verbal prototype presented in text form (loose conversation script):

Me: The web interface of UO will include **checkboxes** right next to select "hotel" , "park ticket" and "express pass". Below that, there will be a **dropdown box** to select the number of guests. Beside this dropdown box, there will be a calendar to select start and end dates of vacation. The user

User/Participant: So, the checkboxes lets me select combinations of hotel, park ticket and express pass. Right?

Me: That's right. As soon as you enter the number of guests, dates and select what you want via checkboxes, you will see the prices.

User/Participant: Okay, so I can select or unselect one of hotel/park ticket/express pass and I can instantly see the prices change in the results. Right?

Me: Yes, that's the idea. You can see prices immediately for any combination you want. That way, you will be informed of the prices.

User/Participant: Great, I like this. I would like this information. If the price is good, I will just stay at the UO hotel. If its too expensive, then I will only book park ticket and book a holiday inn close by.

Me: Ok. So there is one more thing. The web interface will have a '+' icon that replaces the checkbox beside "express pass" with price displayed right beside the option when you are at the park. This way, If you are at the park and you see long lines, you can purchase an express pass for priority access to rides. Its just a click of a button.

User/Participant: Oh, yes. I would like that option. At the park I wouldn't want to sit down and try to look booking options. I just need a tap of a button.

Me: Yes, that's what we had in mind when adding that feature. So, how do you like this new web interface?

User/Participant: Its amazing, I think it has all functionalities I want.

Me: Sounds great, Thank you.

Evaluation from the perspective of requirements I gathered: The above interface meets all the below requirements and did not miss any.

Requirement 1. The interface should show the prices for the options the user chooses. Once the user determines that the price is in their budget, the interface should show the payment options (credit/debit/paypal).

Note that the above Web interface asks the user to select the options (hotel/park ticket/express pass), dates, number of guests and immediately proceeds to show prices for the selected option. The user can check and

uncheck the options to see various prices for various combinations options. For this reason, the Web interface met this requirement.

Requirement 2. Users want to be able to make a booking when they are not at their home/office. For this current case, they want to be able to add an express pass while at park on the go.

It is evident from the conversation above between me and user that the user can add express pass with a tap on phone. For this reason, the Web interface met this requirement.

Requirement 3. Users want a better user experience. The current booking interface has too small icons for booking and they are spread apart on the home screen.

It is evident from the above conversation that the user can spend less than 30 seconds to see all prices and book the vacation they like. The interface is very simple and clutter free which makes the booking experience great- For this reason, the Web interface met this requirement.

How well the prototype mesh with the audience described in data inventory:

Majority of the users I spoke to are very comfortable with web interfaces. Users believe that the idea I pitched is very simple and easy to user. The users agree that it will take very little time for them to book vacation using this new web interface. Therefore, the web interface will mesh well with the audience described in data inventory.

6 PROTOTYPE 3

I select 'Wizard of OZ' for design alternative #2 "Virtual Call Assistant" above. I name the virtual call assistant as "UNI". Table 1 below is the script of instructions I give to user and actions I would return.

Table 1. Wizard of OZ commands and actions I return on behalf of UNI

No #	User command/	Action I return
1	Hello UNI, I want to book vacation at UO.	Hello, Can you tell me the number of guests followed by the dates?
2	I need to book vacation at UO for 4 guests from DD MM YYYY to DD MM YYYY	Ok, the best price available for hotel+park ticket is XXXX $. I am also showing the price on the screen for your convenience. Say "Book it" to proceed for payment or Say "Modify" to add/remove options
3	Modify	Ok what would you like to add or remove
4	I would like to add express pass	Ok, I added express pass. Your new price is XXXX $. I am also showing the price on the screen for your convenience. Say ""Book it" to proceed for payment or Say "Modi-fy" to add/remove options
5	Book it	Scan your card

Evaluation from the perspective of requirements I gathered: 3 requirements I gathered are given in previous 2 sections and due to lack of space I do not want to re-paste them here. From the above table, it is evident that the user can see all prices for any combination of options; user can add express pass later on the go; user will have a quick and pleasant experience. Therefore, he above interface meets all the below requirements and did not miss any.

How well the prototype mesh with the audience described in data inventory:

Majority of the users I spoke to are very comfortable with Virtual assistants like SIRI or GOOGLE ASSISTANT. Users believe that they would love a to talk to a well-designed virtual call agent and book their vacation as it is very quick and simple. Therefore, the web interface will mesh well with the audience described in data inventory.