**HCI exercise 4**

I have divided the answer in 2 parts. The first part contains the answer of 1\textsuperscript{st} question and second part contains answer of second question. The total number of pages of my answer is 7.

**PART 1**

I have drawn a low fidelity prototype (i.e. a paper-and-pen type of prototype, no coding needed) to demonstrate the route planning app for Sam. The prototype demonstrates how Sam achieves a certain task, such as "Sam is asked to nurse her grandchild today from 19 to 21, and needs to plan her route." The whole prototype is based on touch screen with the help of stylus or finger.

Suppose, Sam is staying in Malmi, Helsinki and Sam’s grandchild stays in Juhana hertuantie, Helsinki. Sam needs to reach his grandchild’s home at 19:00 which is 7pm and needs to return after 21 which is 9pm. Following is the way Sam will plan his journey.

Steps followed by Sam:-

1) Sam, enters source as Malmi and destination as Juhana hertuantie, as shown in figure 1.
2) As, Sam needs to be there at 7pm, so Sam enters arrival time at 7pm, as shown in figure 1.
3) Then Sam enters the date when he plans his journey. In the figure 1, an arbitrary date is taken, as shown in figure 1.
4) Then, Sam clicks ‘Enter’ button at below as shown by finger, as shown in figure 1.
5) Then Sam is redirected to the next UI, which is shown in figure 2.
6) Step 6 onwards in on next page.

![Figure 1](image-url)
7) Sam is redirected to figure 2 UI.
8) As, Sam sees that it will take least time to reach his grand child’s home by taking bus route so he clicks on Bus route for more details and is redirected to figure 3.
9) Step 9 onwards is explained in next page.

Figure 2
10) Sam is re-directed to figure 3 of UI.
11) Sam writes down the source bus stop name and number and also the destination bus stop name and number.
12) As the bus timings are suitable for Sam and Sam also wants to plan his return journey so Sam clicks on ‘Return journey’ button.
13) Then Sam is redirected to figure 4, which is shown on next page.
14) The step 14 onwards is explained on next page.

**Figure 3**
15) Sam is redirected to figure 4 of UI.
16) Sam again provides source and destination, as shown in figure 4.
17) As, Sam needs to get out of his grand chid’s home at 9:00 pm so Sam clicks on departure time, as shown in figure 4.
18) Then Sam clicks ‘enter’ button., as shown in figure 4
19) Then Sam is again redirected on next UI, as shown in figure 5 on next page.
20) The step 20 onwards is explained on next page.

![Figure 4](image-url)
21) Sam is redirected to figure 5 UI.
22) As, Sam sees that it will take least time to come from his grand child's home by taking bus route so he clicks on Bus route for more details and is redirected to figure 6.
23) Step 23 onwards is explained in next page.
24) Sam is re-directed to figure 6 of UI.
25) Sam writes down the source bus stop name and number and also the destination bus stop name and number.
26) As the bus timings are suitable for Sam and Sam also wants to quit the journey so Sam clicks on ‘Quit’ button.
27) Hence, in this manner Sam plans his journey from his own house to his grand child’s house and then also plans his return journey.

28) **Part 2** the given question is answered on next page.

![Figure 6]

**Part 2**

According to 5 Filtering dimensions my prototype fits to the following:-

1. **Appearance** – the prototype takes care of size, color, shapes in the following way. 
   Color - As, Sam is old and may suffer from eye problem, so bright colors are not used in the prototype. Also, so that Sam doesn’t mistakenly clicks on different button, buttons are of different colors – like quit button means exit which is depicted by red color, re-plan journey is depicted by green color and next bus button is depicted by blue color as shown in figure 3 and 6.
Size - The ‘Enter’ button as shown in figure 1 and 4 has been shown in big size, so that Sam doesn’t have trouble in finding out as to which button he should click to see the available routes.

Shape - Most of the buttons and text boxes are in either square or rectangle shape and as shown in all the figures. While the radio button of ‘departure’ or ‘arrival’ is in round shape as shown in figure 1 and 4. These follow the general rules, hence Sam will have no problem is accessing the buttons. Moreover, buttons that needs to be clicked like ‘Enter’, ‘Quit’, ‘Click here for details’ have been given #D out shaped, so that Sam can differentiate those buttons from normal buttons which doesn’t needs to be clicked.

2. Functionality – User functionality need has been taken care of in this prototype. As, Sam is old around 60 years of age, so the user interface has been kept simple. No new types of UI designs haven’t been implemented. Moreover, the interview with Sam, as done in week1, showed that Sam needed a journey planner for going to other places, which this prototype satisfies.

3. Interactivity – The prototypes also satisfies interactivity. The UI clearly shows Sam what to do to plan his journey. Like in Figure 1, Sam can clearly type the source and destination name, arrival or departure time and date and can easily press enter. The steps explained above helps Sam to provide as guidance as to how to use the application. The prototype also shows a hand whenever Sam needs to click on some button as shown in Figure 1, figure 2, figure 3, figure 4, figure 5, figure 6.

4. Spatial structure – The prototype doesn’t fits under spatial structure. No dimensions have been considered yet.

According to 3 Manifestation dimensions my prototype fits to the following:-

1. Material – As, the submission of excersise is though moodle and by hand, so I have drawn my prototype in computer but it is equivalent to pen, paper, scale. Paper and pen is used to draw the prototype. Scale is used to keep consistency in all the UIs and also to keep consistency in buttons ans text-boxes.

2. Resolution – rough and simplified sketches of the UI has been drawn. Also, all the steps needed to be performed by Sam plan his journey from his home to his grand child’s home and also to steps needed by Sam to plan the return journey has been shown clearly.

3. Scope – The prototype is limited to journey planning application and other features has been kept as non-available.