Project Phase 2 - Design & Low-fidelity prototype (10 points)

Revised 19 September - Clarifies Task 2c.

This project task is the first of four that together take you through one iteration of the complete design process.

As a reminder, the overall goal is to design a smart phone app helping university students to plan their daily commute to the university from home and vice-versa. The app should support:

- Allowing students to plan their commute according to their calendars and timetables, taking into account transport mode (bus, train, ferry) and personal events.
- Helping students to find the ideal route, transport mode and stops depending on the time of day, start and end locations.
- Allowing students to provide real-time feedback and comments on buses, transport modes, routes and stops, so that other students can benefit from the information.

Please keep all of your answers short and on point, and write them in concise bullet points. Please read the instructions for submission at the end of this exercises. In addition to your submitted report, the results of this phase will inform a *mandatory* presentation for this exercise.

Tasks:

1. Object/Operation Analysis.
   (a) Enumerate all concepts (objects, along with their attributes and actions) of the target domain relevant to your application. Include your results in your report.
   (b) Build a sketching vocabulary similar to the example given in the *Design and Prototyping* lecture. Include the objects from the concepts above.
   (c) **For every group member:** Practice sketching items from your vocabulary for at least 15 minutes. Hand in your final vocabulary version (doesn't have to be pretty).
2. Initial conceptual model
   (a) Identify possible interface metaphors for each task and visualise each as a sketch (at least 3 in total)
   (b) Identify possible interaction modes (types). Briefly explain the reasoning that has let you focus on these particular modes.
   (c) Determine the *interface type* that fit your identified interaction modes. Briefly justify your choice.
   (d) Which metaphor and interaction style is most suitable for your app? Select one and justify your decision briefly.
3. Expanding the Conceptual Model
   Using the use-case and requirements you found in Project Phase 1, briefly answer the following questions:
   (a) What functions will the product perform?
      - What will the product do and what will the human do (task allocation)?
      - What options are under the control of the user?

(b) How are the functions related to each other?

(c) What information needs to be available?

4. Validating the Conceptual Model

   (a) To validate your conceptual model, create 3 storyboards for each main task. *Hint: consider different contexts, as in Project 1.*

      i. Managing (locations, timings, contexts...) an individual user's commuting habits.

      ii. Using the app to communicate and share information with others.

   (b) Show each storyboard to at least 3 potential users and gather some informal feedback.

   (c) Choose the most promising storyboards (one for each task) and refine them based on the feedback. Briefly state what refinements you have performed and why.

5. Paper prototype

   (a) Create 5 prototypes for different UI designs. Keep the prototypes simple: They only need to show the core UI elements.

   (b) Discuss the different designs and gather feedback from at least 3 users. Briefly summarise your findings.

   (c) Select the 2 most promising prototypes. Explain your choice briefly. *Hint: you may want to reference your findings from above.*

   (d) Refine both prototypes based on the feedback. Briefly state what refinements you have performed and why.

   (e) Gather feedback for both refined prototypes from at least 3 users. Briefly summarise your findings.

   (f) Use the feedback to refine both prototypes and create a new and more detailed set of paper prototypes based on the initial ones. You should be able to present a user with all screens necessary to complete the tasks as sketched in the storyboards above.

   (g) Test the 2 paper prototypes with at least 3 different users. (Test each prototype with all users)

   (h) Select the strongest design and refine it based on the user's feedback. Again, briefly explain your choice and state what refinements you have performed and why.

6. In addition to the report you have to prepare a slide set, which you will present during the tutorial. The presentation should focus on your designs and how they were refined and relate to the requirements you identified. (Presentation will be marked and counts towards 10% of the final mark of this project phase).

   - Pay attention to Task 2.d, 4.c, 5.c, 5.f and 5.h when you make the presentation.
   - The maximum number of slides should be limited to 10, and you must be able to finish the slides in 10 minutes. No additional time will be permitted, except for technical difficulties during the presentation.
   - All group members must contribute to the presentation.
   - You will use the presentation that was submitted to the Canvas and will not be allowed to change the presentation.

Instructions for submission:

- Only one student per group needs to upload the submission to Canvas
- You can upload your submission to Canvas multiple times ahead of the due date/time. The final submission will be marked.
- The *presentation* is due **Wednesday, September 25 11:59pm** ready for the tutorial.
- The *report* will be submitted to Canvas separately no later than **Friday, September 27 11:59pm**.
- Both submissions should be in PDF format.
- If one of your group members is not contributing to the project work, you must inform your tutor well in advance, not after the assessment deadline.
- This is a creative exercise. Innovative ideas and solutions are rewarded in grading.
- Please include your report responses into a single document, with any research findings attached as an appendix.
- You should include the following details on the report cover page:
  - The names and unikeys of your group members
  - Your group name or number
  - Which tutorial you attend (i.e. R10A)