Working methodology and grading

1. Students will form groups of four people, randomly selected
2. Team evaluation – **100 points**
    a. **70 points** – documentation quality and timely submission of phases
        i. 1 – 10 points for each analysis phase
        ii. 1 hour - 7 days late for phase submission, penalty 5 points
        iii. > 7 days, penalty 10 points
    b. **30 points** – team work evaluation
    c. project completion with missing phases is not accepted
3. Project evaluation
    a. **50%** – analysis submission and team evaluation (see *2. Team evaluation*)
    b. **40%** – implemented prototype
    c. **10%** – project defence
4. Individual evaluation as a member of the team will be achieved through a questionnaire that each of the team members needs to complete for each of his/her teammates. The questionnaire will evaluate:
    a. involvement in team's meetings
    b. activity as team leader
    c. activity as team member
    d. ….
5. Final grade for the project:
    (point 3) * [(point 4) / average_of_team_members'_individual_evaluation_(point 4)]

General considerations

- all documentation will we written in English
- **phase submission** = the student who is team leader at the moment will upload the phase document on Moodle

Methodology phases

Phase 1: Organizing teams and assigning challenge to each team (*deadline: 08/10.10.2018, 23:59*)

Phase 2: Project proposal presentation (*deadline: 15/17.10.2018, 23:59*)

- Description of the project problem domain. This description should answer the following questions:
    - What types of users will use this interface?
        - The knowledge level required in the application domain
        - The knowledge level required as a device user (tablet, mobile phone, computer etc.)

        - Special user requirements (visually impaired, physically challenged, etc.)
    - What types of things will users try to accomplish with this interface? Motivation?
    - What context of use is relevant to the project? For example:
        - The application will be used in a highly noisy environment?
        - The user might be often interrupted from the usual flow?
        - etc.
    - What applications are currently used by the specified users to accomplish the identified goals?
    - Will users be coordinating this interface with other tools? If yes, what kind of design considerations you followed to facilitate this cooperation?

Phase 2a: Task analysis examples (*deadline: 15/17.10.2018, project class*)

- Present a detailed description of **two user tasks which are highly specific to the application domain,** according to the requirements of **Phase 3**.
- These examples will be discussed with the teacher at the project class

Phase 2b: Management schedule (*deadline: 15/17.10.2018, project class*)

- Each of the team members will be appointed as Team Manager for equal time intervals (as much as possible).
- Each team will present the rotation schedule for the Team Manager position

Phase 3: Task analysis (*deadline: 22/24.10.2018, 23:59*)

- Detailed descriptions of at least **12 tasks specific to the application domain** (as defined in Task-Centered User Interface Design [3,6]), that users would be able to accomplish using your interface.
    - Each task description should include an identification of:
        - who the users are (subcategories of the users identified at Phase 2)
        - what they are doing
        - why they are doing it.
- The task descriptions should not be tied to a specific interface, and should be detailed enough for your users to understand them and for you to use in analysis.
- Trivial and non-application specific tasks will not be accepted (add/update/delete record in database, login, logout, register, contact, add to favourites, FAQ etc.)
- Will not be considered as separate user tasks actions of: ADD / EDIT / DELETE on the same entities

Phase 4: Low fidelity prototype (*deadline: 05/07.11.2018, 23:59*)

- **Intermediate term**: *29.10/01.11.2018, project class*
    - your prototype must support the simulation of at least 5 user tasks
- Create a low fidelity prototype for the tasks defined at *Phase 3*
    - The prototype should illustrate all the basic components of the interface with sufficient detail to enable the evaluation of the design at each action the user needs to perform in order to achieve his/her goal. Elements to include:
        - data display (lists, tables, plain text …)
        - interaction UI elements (menus, buttons, dialog windows, animations …)

        - hints about user gestures (drag & drop, voice commands, elements selection …)
        - indications on graphical elements that will be used (icons, colours …) – just as a sketch, with more details on what element is intended to be used in the final application
    - Ideal prototypes will be paper sketches or outputs from a drawing program (ex. **Pencil** [1] , Marvel [8])
    - The classmates chosen as test users will test this prototype [7]

Phase 4a: Examples of scenarios for user tasks (*deadline: 05/07.11.2018, project class*)

- Present **two user scenarios,** according to the requirements of **Phase 5**.
- These examples will be discussed with the teacher at the project class

Phase 5: Scenarios for user tasks (*deadline: 12/14.11.2018, 23:59*)

- For each of the tasks defined in *Phase 3* present a user scenario [3, 6] (page 20, chapter 2.3).
- Motivate the ideas behind your design and why the interface design is likely to be a good one, referring to principles from the readings, project description and task analysis
- Choose 4 of the 12 chosen tasks and prepare for each of them two alternative successful user scenarios

Phase 5a: Examples walkthrough evaluation (*deadline: 12/14.11.2018, project class*)

- Evaluate **two user scenarios,** according to the requirements of **Phase 6**.
- These examples will be discussed with the teacher at the project class

Phase 6: Walkthrough Evaluation Report (*deadline: 19/21.11.2018, 23:59*)

- Conduct a cognitive walkthrough evaluation of the interface prototype, **for 8 of your user tasks**, stepping through the scenarios defined in Phase 5. At each step, give answers to these questions and explain **WHY**:
    - will the user be trying to produce the effect?
    - will the user see the correct control?
    - will the user see that the control produces the desired effect?
    - is there another control that the user might select instead of the correct one?
    - will the user understand the feedback to proceed correctly?
- Present shortly the outcome of the evaluation and the improvements you intend to make accordingly

Phase 7: High fidelity prototype (coded prototype) (*deadline: 07/09.01.2019, 23:59*)

- **Intermediate term**: *10/12.12.2018, project class*
- User experience and graphical interface take priority over implementing the functionality of the application
- Each team will use a Git like platform that provides detailed log on the contribution and timing of each of the team members

Phase 7a: Examples of heuristic evaluation (*deadline: 07/09.01.2019, project class*)

- Evaluate **one group of three tasks,** according to the requirements of **Phase 8**.
- These examples will be discussed with the teacher at the project class

Phase 8: Heuristic Evaluation Report (*deadline: 14/16.01.2019, 23:59*)

- Heuristic evaluation [4] of your interface, using the Ten Usability Heuristics [5] described by Jakob Nielsen, analysing groups of three tasks together:
    - Explain how is your interface compliant with the heuristics
    - Give specific examples on how you have addressed the ten heuristics in the three tasks
    - Highlight the problems of the current interface design
    - Propose solutions to the identified problems
    - Explain how you intend to improve the user's experience
- Present shortly the outcome of the evaluation and the improvements you intend to make accordingly

Phase 9: Final presentation (*deadline: 14/16.01.2019, project class*)

- **Present the final prototype (15 minutes)**
- Submit the project
    - SurnameFirstname_grXYZW_app.zip (source files AND executable/compiled version)
    - SurnameFirstname_grXYZW_doc.zip (the methodology steps = documentation in.pdf format)

Annex 1

[1] Pencil - http://pencil.evolus.vn/en-US/Home.aspx

[2] CogTool - http://cogtool.hcii.cs.cmu.edu/

[3] Task-Centered User Interface Design - http://hcibib.org/tcuid/tcuid.pdf

[4] Heuristic evaluation - http://www.useit.com/papers/heuristic/

[5] Ten Usability Heuristics by Jacob Nielsen - http://www.useit.com/papers/heuristic/heuristic_list.html

[6] Present a scenario for each of the 5 tasks - http://hcibib.org/tcuid/tcuid.pdf

[7] Paper prototype examples

- in printed form - http://www.youtube.com/watch?v=GrV2SZuRPv0
- test the two designs - http://www.youtube.com/watch?v=Bq1rkVTZLtU

[8] Free mobile & web prototyping (iOS, Android) for designers – Marvel, https://marvelapp.com/