

**Spring 2021 – CSE4053 Information Systems: Analysis & Design****Project #4: Design****Due: 31.05.2021.Mon 23:59**

- 1) [8 pts] Determine **system acquisition strategy** for you project.
  - a) [2 pts] Explain why you have selected that strategy in terms of the influences such as business need, in-house experience, project skills, project management and time frame.
  - b) [2 pts] Prepare / get a sample request for proposal document (RFP).
  - c) [4 pts] Prepare a detailed alternative matrix for your design alternatives.
- 2) [16 pts] Design **architecture** for your system.
  - a) [5 pts] Explain architectural components of the system. How many tiers (2-tiered, 3-tiered, etc.) will you have? Will you have any virtualization or cloud computing?
  - b) [2 pts] Give at least one example for each category of operational requirements.
    - i) Technical environment requirements
    - ii) System integration requirements
    - iii) Portability requirements
    - iv) Maintainability requirements
  - c) [2 pts] Give at least one example for each category of performance requirements.
    - i) Speed requirements
    - ii) Capacity requirements
    - iii) Availability and reliability requirements
  - d) [2 pts] Give at least one example for each category of security requirements.
    - i) System value requirements
    - ii) Access control requirements
    - iii) Encryption and authentication requirements
    - iv) Virus control requirements
  - e) [2 pts] Give at least one example for each category of cultural and political requirements.
    - i) Multilingual requirements
    - ii) Customization requirements
    - iii) Making unstated norms explicit
    - iv) Legal requirements
  - f) [3 pts] Give information about your hardware & software selection. Explain your hardware & software specifications.
- 3) [32 pts] Design **interfaces** for your system.
  - a) [4 pts] Prepare at least one use scenario.
  - b) [7 pts] Prepare the interface structure diagram of your system.
  - c) [5 pts] Prepare interface standards for your system.

- d) [4 pts] Prepare a template for the user interfaces.
  - e) [8 pts] Prepare at least 3 user interfaces of the system.
  - f) [4 pts] Explain how you evaluate the user interfaces of the system.
- 4) [32 pts] Design **programs** for the system.
- a) [6 pts] Prepare at least 2 physical model for the processes of the systems using the data flow diagrams that you have prepared before.
  - b) [18 pts] Prepare at least 4 program structure charts of your system using the DFDs.
  - c) [8 pts] Prepare at least one program specification form.
- 5) [12 pts] Design **databases** and files for the system. Prepare a complete relational database design of your system including the following items:
- a) A complete diagram for the physical data model.
  - b) Explain the tables and the fields, data types, range, default value, etc.
  - c) Explain the relations between the tables.
  - d) Explain the indexes.
  - e) If any, explain triggers, stored procedures, etc.

#### IMPORTANT NOTES

- 1) Write the following sentence in a text file: "We hereby swear that the work done on this project is totally our own; and on our honor, we have neither given nor received any unauthorized and/or inappropriate assistance for this project. We understand that by the school code, violation of these principles will lead to a zero grade and is subject to harsh discipline issues." Rename it as "we\_swear.txt" and include this file in the zip submission file.
- 2) In case of any form of copying and cheating on solutions, all parts will get ZERO points. You should submit your own work. In case of any forms of cheating or copying, both giver and receiver are equally culpable and suffer equal penalties. All types of plagiarism will result in zero points from the project.
- 3) Compress the following files in a zip file and name it as pr4\_studentID.zip
  - a) pr4\_studentID\_we\_swear.txt: honor code.
  - b) pr4\_studentID.docx/pdf: all your documents merged in a single file in order.
  - c) pr4\_studentID\_other.zip: all other files that you cannot embed into your docx/pdf file.
- 4) Submit your single zip file to the site <http://ues.marmara.edu.tr> before deadline. Only the group representatives will handle this process.
- 5) Do not send project submissions through e-mail. E-mail attachments will not be accepted as valid submissions.
- 6) You are responsible for making sure you are turning in the right file, and that it is not corrupted in anyway. We will not allow resubmissions if you turn in the wrong file, even if you can prove that you have not modified the file after the deadline.
- 7) Grade evaluation may be done on selected parts of the project, so try to complete all parts of your project successfully.

- 8) No late submissions will be accepted.
- 9) You are going to present your work together with the project #5 later in class.
- First four groups will get +15 points bonus for project #5.
  - All of students should attend all the presentations. Attendance will be taken into consideration.
  - While presenting, all the group members must open the camera during their presentations.
  - Similar to lecture hours, all presentations will be recorded.
  - You are going to present your work online in 24 minutes on the date assigned for your group. Group members should equally participate the presentation.
  - Any group member, who does not present his/her work on the date assigned, will get zero points from both project #4 and project #5.**
  - Presentations will be done according to the following table.

No	Group Members	Project Topic	Presentation Date
1	Sedanur Kara * Emir Buğra Kılıç Sinem Onal	Order Management	09.06.2021 <b>Wednesday 15.0 – 17.00</b>
2	Fatmanur Özdemir * Buse Batman Kevser İldeş	Cemetery Sales	09.06.2021 <b>Wednesday 15.0 – 17.00</b>
3	Cem Güleç * Elif Balcı Büşra Gökmen	Swapy	09.06.2021 <b>Wednesday 15.0 – 17.00</b>
4	Eray Ayaz * Ahmet Hakan Ekşi Süleyman Barış Eser	CSE Internship	09.06.2021 <b>Wednesday 15.0 – 17.00</b>
5	Nur Deniz Çaylı * Emin Kağan Kadioğlu Minel Saygısever	Bahçem	10.06.2021 <b>Thursday 10.30 – 12.00</b>
6	Halid Seyfullah Sert * Tarkan Batar Mustafa Kibaroglu	SuperVet	10.06.2021 <b>Thursday 10.30 – 12.00</b>
7	Hümeysra Ceyda Polat * Alperen Kağan Kara Zehra Zeynep Pehlivan	Colorify	10.06.2021 <b>Thursday 10.30 – 12.00</b>
8	Çağla Şen * İrem Miray Çakır Pelşin Kaplan	BuzdolApp	16.06.2021 <b>Wednesday 15.0 – 17.00</b>
9	Osman Manticı * Havva Karaçam Varol Koçoğlu	Question Recommender	16.06.2021 <b>Wednesday 15.0 – 17.00</b>
10	Oğuzhan Tezel * Ahmet Tayyib Mengüç Harun Sarı	Image Transfer	16.06.2021 <b>Wednesday 15.0 – 17.00</b>
11	Selahattin Hüsmen * Bilal Tan Ahmet Fatih Yüksel	Car Brand Detection	16.06.2021 <b>Wednesday 15.0 – 17.00</b>
12	Selimhan Çakır * Hüseyin Demir Mümin Kocamaz	Calorie Counter	17.06.2021 <b>Thursday 10.30 – 12.00</b>
13	Ahmet Fazıl Emir * Metehan Ertan Abdullah Gülçür	MedCare	17.06.2021 <b>Thursday 10.30 – 12.00</b>
14	Ertuğrul Sağdıç * Ali Çetinkaya	Park It	17.06.2021 <b>Thursday 10.30 – 12.00</b>

\* Group representative