Marmara University – Faculty of Engineering – Department of Computer Engineering

Spring 2021 – CSE4053 Information Systems: Analysis & Design
Project #3: Analysis

Due: 07|13.04.2021.Wed|Tue 23:59

1) [8 pts] Develop an **analysis strategy** for your project.

- **a)** Business process automation
  - **i)** If any, explain what you have done in terms of business process automation.
  - **ii)** Which type of techniques, such as problem analysis, root cause analysis, etc., did you use? Explain briefly.
- **b)** Business process improvement
  - **i)** If any, explain what you have done in terms of business process improvement.
  - **ii)** Which type of techniques, such as duration analysis, activity-based costing, informal benchmarking, etc., did you use? Explain briefly.
- **c)** Business process reengineering
  - **i)** If any, explain what you have done in terms of business process reengineering.
  - **ii)** Which type of techniques, such as outcome analysis, technology analysis, activity elimination, etc., did you use? Explain briefly.
- **d)** Briefly compare the analysis techniques that you used in terms of potential business value, project cost, breadth of analysis, and risk.

2) [16 pts] Determine the **requirements elicitation techniques** for your project.

- **a)** You can gather information using many different elicitation techniques such as interview, JAD session, questionnaire, document analysis, observation, etc.
- **b)** Prepare a sample but complete interview document including the following:
  - **i)** Information about the interview for the questions: for what, why, who, with whom, when, where.
  - **ii)** Questions of the interview.
  - **iii)** Answers and the summary of document.
  - **iv)** Follow-ups.
- **c)** Prepare a sample questionnaire for your project.
- **d)** Briefly compare the elicitation techniques that you used for your project in terms of type of information, depth of information, breadth of information, integration of information, user involvement, and cost.

3) [16 pts] Prepare a **requirements definition** document.

- **a)** Functional requirements
  - **i)** Prepare a list of information-oriented functional requirements as well as short descriptions for them.
  - **ii)** Prepare a list of process-oriented functional requirements as well as short descriptions for them.
- **b)** Nonfunctional requirements
  - **i)** Prepare a list of operational non-functional requirements as well as short descriptions for them.

ii) Prepare a list of performance non-functional requirements as well as short descriptions for them.

iii) Prepare a list of security non-functional requirements as well as short descriptions for them.

iv) Prepare a list of cultural and political non-functional requirements as well as short descriptions for them.

4) [20 pts] Prepare a **use case** analysis for your project.

a) Create use cases (at least 5).

5) [20 pts] Prepare **data flow diagrams / process models** for your project.

a) Create data flow diagrams (at least 5).

b) Be sure to have at least one from each of the following: Context diagram, Level 0 DFD, Level 1 DFD, Level 2 DFD.

6) [8 pts] Prepare the **data model** for your project.

a) Create a complete entity-relationship diagram for your data modeling.

7) [12 pts] Prepare a **system proposal** document which includes the following.

a) Table of contents

b) Executive summary: A summary of all the essential information in the proposal so that a busy executive can read it quickly and decide what parts of the plan to read in more depth.

c) System request: You can use the one that you created in the planning phase (project #2), or you may revise it.

d) Work plan: You can use the one that you created in the planning phase (project #2), or you may revise it.

e) Feasibility analysis: You can use the one that you created in the planning phase (project #2), or you may revise it.

f) Requirements definition: A list of the functional and nonfunctional business requirements for the system. Use the one that you have prepared for item #3 of this document.

g) Use cases: A set of use cases that illustrate the basic processes that the system needs to support. Use the one that you have prepared for item #4 of this document.

h) Process model: A set of process models and descriptions for the to-be system. This may include process models of the current as-is system that will be replaced. Use the one that you have prepared for item #5 of this document.

i) Data model: A set of data models and descriptions for the to-be system. This may include data models of the as-is system that will be replaced. Use the one that you have prepared for item #6 of this document.

j) Appendices: These contain additional material relevant to the proposal, often used to support the recommended system. This might include results of a questionnaire survey or interviews, industry reports and statistics, 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 pr3_studentID.zip

- **a)** pr3_studentID_we_swear.txt: honor code.
- **b)** pr3_studentID.docx/pdf: all your documents merged in a single file in order.
- **c)** pr3_studentID.pptx: the presentation file in order to present your work for project #2 and project #3.
- **d)** pr3_studentID_QA.pptx: the presentation file for your related questions and answers (see below).
- **e)** pr3_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 #2 later in class.

- **a)** First four groups will get +20 points bonus for project #3.
- **b)** All of students should attend all the presentations. Attendance will be taken into consideration.
- **c)** While presenting, all the group members must open the camera during their presentations.
- **d)** Similar to lecture hours, all presentations will be recorded.
- **e)** You are going to present your work online in 17 minutes on the date assigned for your group. Group members should equally participate the presentation.
- **f) Any group member, who does not present his/her work on the date assigned, will get zero points from both project #2 and project #3.**

g) Prepare a presentation file for your presentation and submit it together with your project #3 files (see above).

h) Related questions & answers: Prepare a QA file for your questions and answers and submit it together with your project #3 files (see above).

i) Prepare 5 questions and answers related to your project topic. These questions may be asked to other students.

ii) Question types can be multiple choice (single or multiple selection), fill in the blanks, matching, essay, etc.

iii) Prepare a presentation file with 11 slides consisting of these 5 questions and answers. First slide will be used for your topic and group members' info. Use 1 slide per each question, and 1 slide per each answer.

i) 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	08.04.2021 **Thursday 10.30 – 12.00**
2	Fatmanur Özdemir * Buse Batman Kevser İldeş	Cemetary Sales	08.04.2021 **Thursday 10.30 – 12.00**
3	Çağla Şen * İrem Miray Çakır Pelşin Kaplan	BuzdolApp	08.04.2021 **Thursday 10.30 – 12.00**
4	Nur Deniz Çaylı * Emin Kağan Kadıoğlu Minel Saygısever	Bahçem	08.04.2021 **Thursday 10.30 – 12.00**
5	Halid Seyfullah Sert * Tarkan Batar Mustafa Kibaroğlu	SuperVet	14.04.2021 **Wednesday 15.00 – 17.00**
6	Osman Mantıcı * Havva Karaçam Varol Koçoğlu	Question Recommender	14.04.2021 **Wednesday 15.00 – 17.00**
7	Oğuzhan Tezel * Ahmet Tayyib Mengüç Harun Sarı	Image Transfer	14.04.2021 **Wednesday 15.00 – 17.00**
8	Cem Güleç * Elif Balcı Büşra Gökmen	Swapy	14.04.2021 **Wednesday 15.00 – 17.00**
9	Selahattin Hüsmen * Bilal Tan Ahmet Fatih Yüksel	Car Brand Detection	14.04.2021 **Wednesday 15.00 – 17.00**
10	Selimhan Çakır * Hüseyin Demir Mümin Kocamaz	Calorie Counter	14.04.2021 **Wednesday 15.00 – 17.00**
11	Hümeyra Ceyda Polat * Alperen Kağan Kara Zehra Zeynep Pehlivan	Colorify	15.04.2021 **Thursday 10.30 – 12.00**
12	Eray Ayaz * Ahmet Hakan Ekşi Süleyman Barış Eser	CSE Internship	15.04.2021 **Thursday 10.30 – 12.00**
13	Ahmet Fazıl Emir * Metehan Ertan Abdullah Gülçür	MedCare	15.04.2021 **Thursday 10.30 – 12.00**
14	Ertuğrul Sağdıç * Ali Çetinkaya	Park It	15.04.2021 **Thursday 10.30 – 12.00**

* Group representative