California State University, Fullerton
Department of Information Systems and Decision Sciences

ISDS 406
Systems Analysis and Design
Summer 2022

INDIVIDUAL PROJECT: A “Uber for Pickup-Truck Rides” Website

PROJECT SUMMARY

You are a senior systems analyst for Moving Lines, Inc., a moving company. You have been asked to submit a report to the CEO of Moving Lines, Inc. on a new pickup-truck rideshare system. This is an INDIVIDUAL project. In preparing the report, you must include the documents and deliverables described in the textbook for the required phases of the SDLC.

BACKGROUND

Moving Lines, Inc. is a moving company. The company’s revenue has been growing but at a slow pace. The CEO of Moving Lines, Inc. would like to explore new business opportunities by expanding its business to the Web. Like many people, the CEO sometimes uses ride-sharing applications (e.g., Uber and Lyft) instead of driving.

One day, after purchasing a 65-inch LG OLED 4K TV from Costco, the CEO realized that the TV would not fit into the back of a hatchback car. Wouldn’t it be great if the CEO had access to a pickup truck for an hour or two just to move the new TV back home? Then an idea came, why not create a website that matches people who need a pickup truck for an hour or two with pickup truck owners who can spare a couple of hours driving? (The pickup truck owner is only responsible for driving, not moving large items.)

The CEO thinks that this pickup-truck rideshare (“Uber for Pickup-Truck Rides”) service represents a sweet spot between larger moving truck services and smaller ride-sharing services. For this pickup-truck ride share service, the customer is only looking for a quick trip to move an item that is too *large* for a passenger car but too *small* for a large moving truck.

You are to carry out the planning and analysis for this “Uber for Pickup-Truck Rides” website that customers can access directly. Using the website, a customer can request a pickup truck (and a driver) and specify the pickup and dropoff locations. Then, available pickup truck owners/drivers can respond to such requests.

To quickly get the website up and running, the CEO told you that this website (at least initially) does not need any mapping capability. In making a pickup-truck rideshare request, the customer only has to specify the pickup and dropoff locations.

WHAT ARE REQUIRED?

The report is effectively a "system proposal" for the "Uber for Pickup-Truck Rides" website and will have 11 major sections (and corresponding subsections):

(Note that these deliverables make up the "system proposal" document.)

1. Table of Contents

2. Executive Summary

This section contains a high-level summary of the results of the report.

3. System Request

For this new pickup-truck rideshare ("Uber for Pickup-Truck Rides") website, develop a system request similar to that shown in Figure 1-5 of the textbook. Include Project Sponsor, Business Need, Business Requirements, Business Values, and Special Issues or Constraints.

(System Request is part of the SDLC "Planning" phase.)

4. Feasibility Analysis

4.1 Technical Feasibility

Write a paragraph to address the technical feasibility of this "Uber for Pickup-Truck Rides" website. Answer the question "can we build it" *and* discuss your answer.

4.2 Organizational Feasibility

Write a paragraph to address the organizational feasibility of this "Uber for Pickup-Truck Rides" website. Answer the question "is this project strategically aligned with Moving Lines, Inc.'s business", as well as discuss your answer.

(Notes:

- Assume that another analyst at Moving Lines, Inc. is conducting an economic feasibility study. Therefore, you do not have to include a subsection on Economic Feasibility.)
- Feasibility Analysis is part of the SDLC “Planning” phase.)

5. Staffing Plan

Assume that you will be using the waterfall development methodology. Develop a project staffing plan. Figure 2-19 of the textbook may be consulted as an example, but your staffing plan must contain your own estimates of the staffing needs.

(Staffing Plan is part of the SDLC “Planning” phase.)

6. Risk Assessment

Develop a risk assessment similar to that shown in Figure 2-18 of the textbook. Assess at least two risks. For each risk, define the risk, estimate the likelihood of risk, address the potential impact of this risk on the project, and describe ways to address this risk.

(Risk Assessment is part of the SDLC “Planning” phase.)

7. Requirements Definition

7.1 Functional Requirements

Describe what you think should be the *functional* requirements of this system. Use the format shown in Figure 3-14 of the textbook to present your functional requirements.

Write at least two functional requirements based on the Normal Course of each use case. Because this project requires at least three use cases (see the “Use Cases” section below), you need to present a minimum of six functional requirements.

7.2 Nonfunctional Requirements

Describe the necessary *nonfunctional* requirements for this system. Organize your descriptions in terms of operational, performance, security, and cultural and political requirements. Use the format shown in Figure 3-14 of the textbook to present your nonfunctional requirements.

(Requirements Definition is part of the SDLC “Analysis” phase.)

8. Use Cases

Include a minimum of three use cases that demonstrate the important processes that the system must support. For each use case, utilize the use case format shown in Figure 4-11 of the textbook.

In your use cases, make sure you include all the required sections. Also, include these additional sections in each use case:

- "Information for Steps"
- "Summary Inputs"
- "Source" (of inputs)
- "Summary Outputs"
- "Destination" (of outputs)

(Use Cases are part of the SDLC "Analysis" phase.)

9. Data Flow Diagrams in Process Modeling

Develop and show a set of data flow diagrams for the "Uber for Pickup-Truck Rides" website. At a minimum, you need to include:

- One context diagram
- One level 0 diagram
- Three level 1 diagrams

(Data Flow Diagramming is part of the SDLC "Analysis" phase.)

10. Data Model

Develop and show an entity relationship diagram for the "Uber for Pickup-Truck Rides" website.

(Data Modeling is part of the SDLC "Analysis" phase.)

11. References List

This section will have a list of references used in the report. Note that in addition to the list of references in this section, the report also needs to have specific **in-text citations** in the body of the report.

See the next two pages of this handout.

PROPER IN-TEXT CITATIONS AND REFERENCE LIST:

1. Be creative in presenting your planning and analysis. You should research, glean and include materials necessary to appropriately communicate an understanding of the system. You need to write the report in your own words and give proper credits to sources you use (See #2 to #5 below).
2. If you quote a source word-for-word, do the following:
    a. Put a pair of quotation marks around the quoted sentence(s), AND
    b. Give the in-text citation (author, date, and page number) in parenthesis directly in the text right after the quoted sentence(s).
    c. Put the full reference at the end of the report under the Reference List section.
3. If you paraphrase a source, do the following:
    a. Give the in-text citation (author and date) in parenthesis directly in the text right after the paraphrased sentence(s).
    b. Put the full reference at the end of the report under the Reference List section.
4. All references listed under the Reference List section must be cited in the text. There should be no "orphan" reference in the Reference List section.
5. For more information on properly citing sources and listing references, consult https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/in_text_citations_the_basics.html
6. **Remember: It's not enough to simply include the full reference at the end of the report under the Reference List section. YOU HAVE TO PROVIDE THE IN-TEXT CITATION DIRECTLY IN THE TEXT ALSO (see #2 to #5 above).**
7. **It is expected that your report will have in-text citations and an end-of-report list of references.**

WHAT TO DO:

1. The report must be typed.
2. The various diagrams must be drawn using drawing software such as Visio. Visio is easier to use for drawing diagrams.
3. State all assumptions explicitly in the report. The reader(s) of the report expect a self-contained document that addresses all their concerns. If the instructor reads the document and doesn't understand any particular section because of a lack of explanation, then points will be taken off. The instructor will not accept any reason to the effect "…although I didn't state it, my assumption was…so give me points."
4. Draw your own diagrams. Don't copy them from manufacturers' websites.
5. If you quote word-for-word or paraphrase materials in the textbook, then you must (a) provide the in-text citation of the page number and textbook and (b) list the textbook in the Reference List section. Using the textbook is not a license to plagiarize.

6. Use the Reference List section to list all sources (online and in hardcopy form) of materials used.
7. The report length should be between 1,500 and 2,000 words (not counting the Reference List section, tables, and figures). The instructor goes by the raw word count, not the number of pages.

WHAT NOT TO DO:

1. Do not clutter your report with unnecessary drawings and diagrams that do not add to the substance and clarity of the report. The length of the report alone does not earn extra points.
2. Do not blindly copy the manufacturers' (e.g., Oracle) descriptions/diagrams of their products and sample solutions into your report and call them your own.
3. Do not plagiarize. Academic dishonesty will be dealt with according to University policies. See the "Proper In-Text Citations and Reference List" section above.
    a. For more information on avoiding plagiarism, consult "Student Guide to Avoiding Plagiarism" (written by the Dean of Students Office) to be posted on Canvas.
    b. The instructor will use the plagiarism detection service TurnItIn.com (https://www.turnitin.com) or similar services as necessary to check if the report contains plagiarized writings.

FINAL COMMENTS:

1. Do not haphazardly throw together the report at the last minute meeting only the minimum requirements of contents.
2. In grading, the instructor considers the neatness, organization, and overall presentation of the materials in your report document.

REPORT SUBMISSION:

1. The report is due in class at **1:35 PM on Monday, June 27, 2022.**
2. In submitting the report, you need to both:
    a. Upload the Microsoft Word of your report to the Project Report assignment link on Canvas, AND
    b. Hand in the hard copy in class.
3. Late submission (time-stamped after the deadline) will not be accepted and will receive an automatic 0.