NUS
National University
of Singapore

School of Computing

IS2102 Requirements Analysis for Business IT Systems
Academic Year 2025/26 Semester 1

Project Guidelines

A.   LEARNING OBJECTIVES

This project simulates a real-world requirements analysis process for a new, innovative Business IT system. As a team of Business Analysts, your mission is to define the "why," "who," and "what" for **LaundryDash**, a new on-demand laundry service platform. The client has a vision but not a detailed specification. It is your job to elicit, analyze, validate, and document the requirements that will guide the system's development.

At the end of the project, you should be able to

- Analyze a business problem and define a project's scope and objectives.
- Model core business processes using UML Activity Diagrams.
- Translate high-level features into user-centric requirements using Personas, Epics, and User Stories.
- Define system functionality formally through Use Case Diagrams and Use Case Descriptions.
- Visualize user journeys and validate requirements using Wireframes and interactive Prototypes.
- Collaboratively produce a comprehensive Business Requirements Document (BRD) composed of specific, integrated deliverables.

B.   WHAT'S NEW THIS SEMESTER

Since last year, we have introduced a new approach to the project component to address feedback from previous semesters. Here are some of the key concerns we have identified:

- **Perceived Competition:** There was a misconception that longer reports received higher scores, leading to a "spoil market" culture.
- **Tedious Process:** Many groups found it challenging to understand the purpose of different report sections as they progressed.
  End-of-Semester Workload: Workloads tend to become overwhelming towards the semester's end.

Additionally, with AI's growing influence in all aspects of our lives, including requirements gathering and design, we aim to provide you with an opportunity to integrate AI into your projects and encourage a reflective approach to learning.

To address these concerns and goals, we are implementing the following changes:

- **Deliverable-Based Format:** Instead of a lengthy report, we will focus on specific deliverables. Consultations will be aligned to help you tackle these deliverables,

spreading the workload throughout the semester and directly applying class topics as they are covered.

- **Integration of Generative AI (GenAI):** You are expected to use GenAI tools to facilitate the process. Beyond just enhancing efficiency, GenAI should be utilized to help you reflect on and evaluate the validity of your work.
- **Drastically reducing the page limits for each section:** The page limits for each deliverable are also drastically reduced to encourage conciseness and criticality and kill the "spoil market" culture. It should also better simulate modern real-world working environment which values clarity and brevity even though there is still value in having complete and detailed requirement documentations.

C.   OPENING NARRATIVE

Busy urban professionals and families in Singapore often lack the time for household chores, especially laundry. While traditional laundromats exist, they require customers to drop off and pick up their clothes, which is inconvenient. There is a clear market opportunity for a technology-driven, on-demand laundry and dry-cleaning service that offers the convenience of modern delivery apps.

LaundryDash aims to fill this gap by creating a three-sided marketplace platform that seamlessly connects:

1. **Customers** who need their laundry done.
2. A network of **Drivers** for efficient collection and delivery.
3. Vetted, professional **Laundry Partners** (existing laundromats) who perform the cleaning.

To stand out, LaundryDash will offer standard on-demand services (e.g., wash-and-fold charged by weight, dry cleaning charged per item) alongside an innovative **Subscription Model**. This model allows users to pay a flat monthly fee for a set number of laundry bag pickups, creating a predictable, recurring revenue stream and fostering customer loyalty.

Your team of 4-5 Business Analysts has been hired by LaundryDash to design the solution. You will need to research similar on-demand service models, make and justify key business assumptions, and produce a clear and viable set of requirements for the platform. Over the next few months, you will conduct thorough research and design a viable solution.

The project involves three main deliverables:

1. **Business Modeling**: Write up on the business model and scope of the project.

2. **Requirements Analysis:** Detailed analysis of the business and system requirements.

3. **Documentation of the Use of AI Tools:** Explanation of how AI tools are utilized in the project to enhance research, efficiency, innovation, and reflection.

D.   PROJECT SCOPE

The LaundryDash platform will serve four primary user types: **Customers**, **Drivers**, **Laundry Partners**, and **LaundryDash Admin Staff**, through four main software components:

1   1. **LaundryDash Customer Mobile App**
2   2. **LaundryDash Driver Mobile App**
3   3. **LaundryDash Partner Web Portal / App**
4   4. **LaundryDash Admin Web Portal**

5   Your team will need to research similar solutions to develop the initial requirements and
6   design this system. This write-up is intentionally brief and open-ended to foster critical
7   thinking and thorough requirement gathering. The provided details are not exhaustive, so you
8   are encouraged to expand upon this information to fully address all business needs.

9   Additionally, you have the flexibility to design your solution differently from what is
10   discussed here if the high-level business requirements are met. Keep in mind that the features
11   of your system may vary depending on the specific business model of LaundryDash, so it is
12   important to consider this before your requirements analysis.

E. DELIVERABLES

14   The final submission will be a **single, consolidated Business Requirements Document**
15   **(BRD)**, structured into the following three main sections. Please adhere to the specified page
16   limits, as conciseness and clarity are key evaluation criteria.

17   **Each deliverable should be presented in its own section and combined into a single**
18   **document. The document should include a table of contents with hyperlinks to the**
19   **different sections, and all pages should be numbered. Please adhere to the page limits**
20   **specified for each section.**

21   Formatting requirements:

22   • Arial font 11
23   • Single line spacing

E.1. Business Modeling

25   This section sets the stage for the project, defining the "why" and "what" at a high level.

26   • **Business Context & Vision:** Describe the business environment, target audience, and
27   key stakeholders. Present a concise summary of the LaundryDash business model,
28   including its revenue streams and unique value proposition.
29   • **Project Scope:** Clearly define the boundaries of the project. What is in scope for the
30   initial launch? What is out of scope?
31   • **Core Business Processes (Activity Diagrams):** Model the core "To-Be" business
32   processes for LaundryDash. These diagrams must use swimlanes.

33   Page limit: **10 pages**

E.2. Requirements Analysis

35   This is the core of your report. It details the integrated requirements for **all four** components
36   of the LaundryDash platform, but with different levels of detail to ensure both depth and
37   breadth of analysis.

Your team must select **two** of the four main components (e.g., Customer Mobile App and Driver Mobile App) for a detailed, in-depth analysis.

For **each** of these two chosen components, you must provide the following integrated set of artifacts:

1. **Personas:** Create detailed **Personas** for the primary users of the component.
2. **Epic and User Stories:** Define one major **Epic** (large feature) critical to the persona's experience. Break it down into well-formed **User Stories**, providing **Acceptance Criteria** (Gherkin format) for at least two of them.
3. **Use Case Models and Use Case Descriptions:** Provide **Use Case Diagrams** for each of the components. Then, write a detailed **Use Case Description** for <u>one</u> of the most essential use for each chosen components (a total of two use case descriptions to be submitted).
4. **Wireframes & Prototype:** Create a **mid-fidelity wireframe flow** that visually represents the user's journey through the use case you just described. Include **design justifications** referencing at least two of Nielsen's Heuristics.

For the **two remaining components** that you did not choose for the major analysis, you will provide a high-level overview. This demonstrates that you have considered their role in the overall ecosystem without requiring a full deep-dive.

For **each** of these two remaining components, you must provide:

1. **High-Level Purpose:** A brief paragraph describing the component's main purpose and its primary user.
2. **Use Case Diagrams: Use Case Diagram(s)** that outlines the key functions and goals for this component.
3. **Key User Stories:** A list of **3-5 key User Stories** (using the As a..., I want..., so that... format) that capture the most essential needs for this component. *(Acceptance Criteria are not required for these).*

Note: At the end of this entire section, include a single shareable link to your Figma prototype, which should contain the wireframe flows for your two major components.

Page limit: **<u>40 pages</u>**

E.3.   Documentation of AI Tools Usage

This section documents your team's partnership with Generative AI.

*   **Process Description:** Describe your team's workflow for using AI in brainstorming, analysis, and validation.
*   **Prompts and Critical Analysis:** Provide **three** distinct examples of how you used AI. For each, include the prompt, the AI's response, and a critical analysis of how you had to refine or correct the output.
*   **Overall Reflection:** Evaluate the effectiveness of AI as a 'team member' for this project. What tasks did it accelerate? Where was human-only critical thinking and business acumen most essential?

Page limit: **10 pages**

F.   COMMUNICATION MEDIUMS

As a team, you should research and acquire the necessary domain knowledge regarding the industry. Based on this research, propose possible requirements and solutions for the system. Use the consultation sessions to refine your requirements and receive feedback on your work but ensure that you have done your own research beforehand. Do not treat consultation sessions as interviews for gathering requirements.

You can use the following communication mediums to discuss with the instructors:

- Canvas discussion forum
- Face-to-face consultations with your project advisor
- Online chat (MS Teams, etc) with your project advisor

Please note that you are not allowed to directly ask for a list of requirements. Focus on demonstrating your understanding and initiative in gathering and refining the necessary information.

G.   GRADING COMPONENTS

The project is worth 30% of the entire course grade, and the evaluation criteria are as follows. The 30% is based on group effort, meaning all team members will initially receive the same score. However, at the end of the project, there will be a peer review exercise to adjust individual scores based on contribution. Team members who are recognized by their peers as contributing more will receive higher marks, while **"free riders" will be penalized heavily**.

	Component	Weightage
1	Business Modeling	5
2	Requirements Analysis (which includes organization and presentation style)	20
3	Use of AI Tools	5
4	***Peer Review and individual participation***	*Moderated accordingly based on contribution*
Total		**30**

<p align="center">Table G.1 – Evaluation criteria</p>

Although a hard copy of the report is not required, the softcopy must be of high resolution. Diagrams that are too small or unclear will not be marked. If you exceed any of the sections' page limit, grading will be done only for the pages until the page limit. One member of the team should submit the compiled document (as described in sections E and G) by the deadline. A late penalty will apply to late submissions.

H.   FREQUENT ASKED QUESTIONS

Q. What is the expectation of the report? Is it about having many innovative solutions or what?

A. We are more concerned with the completeness of the analysis and design rather than innovative features. I.e. imagine if you were to pass this report to an outsourcing software company to do the development, they can develop the solutions based on the BRD without having to ask questions. Likewise, once the system has been developed, the system can support any potential business scenarios that can arise (ideally you want to consider all the

potential scenarios rather than assume best-case scenarios).
Q. What is an excellent report vs a mediocre report?
A. Based on our experience, a good report treats this project as the real thing rather than trying to produce the different deliverables because we requested for them explicitly in this write-up. Think of this as if you must follow through the entire process from requirements gathering to analysis of the requirements to system design to system implementation to eventually using the system. Information that is important for the development of the system and the usage of the system that needs to be decided should also be included in the report.

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I.   MILESTONES / TIMELINE

3 We have divided the consultation and the deliverables into different parts to help you
4 complete parts of the reports and to ensure teams do not wait until the last few weeks to start
5 working on the report.

6 The following are the milestones/timelines to guide your progress. There is a total of 4
7 scheduled consultation sessions with the teaching team that you can use to clarify any
8 questions and to ensure that you are on track. **You are required to prepare for the**
9 **consultation and come with your questions (if any) and present your work to have a**
10 **fruitful discussion.** Note that it is your responsibility to schedule the consultation
11 appointment with the team advisor.

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Week	Key Activities	Suggested Preparation
Week 5 (8 Sep to 12 Sep)	• First consultation to clarify any question regarding the business modeling aspect.	• Questions regarding the problem domain. • Draft or points tackling section E.1.
Week 8 (6 Oct to 10 Oct)	• Second consultation to discuss the requirements.	• Personas • Epic and User Stories

Week	Key Activities	Suggested Preparation
Week 10 (20 Oct to 24 Oct)	• Third consultation to discuss the requirements analysis	• Use Cases • Use Case Descriptions
Week 12 (3 Nov to 7 Nov)	• Final consultation to review prototype and Wireframe	• Wireframe • Prototype
Week 13 (**14 Nov 11:59 pm**)	• The completed BRD is to be submitted in **softcopy**[1]**.**	• Deliverables as described in Section E.

1   **Table I.1 – Overall timeline for IS2102**

2   Aside from the scheduled consultations, you are encouraged to arrange further consultations
3   if necessary.

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20   ■ *End of Project Guidelines*

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[1] You should submit to your respective Canvas Group Files folder.