



First semester 2023/2024
Advanced topics in software development
Group project: Delivery 1
ETA: 15 Dec midnight.

In the group project, you will be building a new backend feature for an application similar to social media websites such as Twitter or LinkedIn. The motivation behind this feature is a new rule enacted by the Gaza authority, allowing users to manage and access the collected information about themselves.

The new feature is called '**user data**' which facilitates requests for exporting and clearing the collected data by the system about the user. These operations vary depending on the type of collected data, which is based on the user category — **new, regular, or premium**. To export or delete, the request may take up to minutes based on the user's data.

Functional Features

Feature 1: Data Exporting

In this feature, users should be able to export all collected information about them. This data is distributed across several components:

- IAM service: User profile details
- Post service: The posts
- Payment component: Payment information (applicable for premium users only)
- Activity component: User activities and interactions with other users. Not applicable for new users.

In this feature, the user shall be able to:

1. Export the data and download it directly.
2. Alternatively, Your service will then upload the data to the specified file storage service by providing a link to a file storage service such as Dropbox or Google Drive.
3. Additionally, your service shall:
 - a. Convert a zip file containing PDF files.
 - b. Each PDF file will contain different data types, such as:
 - i. One file for user details.
 - ii. Another file for payment info.

Feature 2: Data Deletion

Users should be able to send requests to delete their data in the system. There are two types of deletion requests:

- **Soft delete:** Users can clear everything except basic information such as username and email.
- **Hard delete:** Users can delete all their details, including their account, making it no longer exist.

The hard delete operation ensures that no one can create a new account using the deleted username.

Non-functional Requirements

- Authentication is not required; however, we must ensure that only the account owner can manage their account, and no one else.
- The system should be scalable; for instance, in the future, it should be able to serve millions of users.
- For debugging and accountability, the application should generate detailed logs for every action performed in the system.
- The data updateness for premium account is essential.
- Approximately 90% of the users are readers.

- Response time should be less than 1 second.
 - Your service shall be flexible, making it easy to add new file storage options in addition to Dropbox and Google Drive.
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First Delivery:

Part 1:

- Please write the SRS document for this application make sure to add the use case and sequinail diagrams.

Part 2:

In this part of the project, you need to draw the following architectures for the system.

- **Level 1: System Context diagram:** In this level you need to show system users and the other systems that it interacts with.
- **Level 2: Container diagram:** it shows the high-level shape of the software architecture and how responsibilities are distributed across it.
- **Level 3: Component diagram:** it shows how a container is made up of a number of "components", what each of those components are and their responsibilities.

In your architecture, you should also provide a short description for each component in your architecture. You need also to show a short description on component interactions (relation) and what its purpose is.

Note:

Please submit the Software Requirements Specification (SRS) and design in a Google Doc. Share the link and make sure I am added via my email: mustafa.assaf@najah.edu.