

CS411
SOFTWARE ARCHITECTURE DESIGN
2022-2023 FALL
PROJECT # 1

You are asked to do the following staff as a team work:

1. Choose one of the following open source projects:
 - Strapi
 - Keycloak
 - Medusa
 - Webiny
 - Grafana
 - Signoz
 - Matomo
 - Jitsu
 - Wireshark
 - Gitlab
 - Mattermost
 - Renovate
 - PostHog
 - a. Write your reasoning why you choose that project.
2. Examine current architectural structure
 - a. Summarize the problem definition and domain
 - b. List major technical problems and proposed solutions. The problems are the ones that are related to the open source project itself.
 - c. List stakeholders and their expectations & contributions
 - d. Examine quality requirements of the project and write your reasoning
 - e. Prepare the high-level architecture with UML diagrams (Use Case, Component, and Activity). You can use diagrams that were prepared before by the architects of the open-source project. However, do not copy and paste, rather you should understand and draw by yourself. Within your architecture, do not forget to include different views that were discussed during the lectures (Architectural Design Methods).
 - f. Write the rationale behind this architecture
 - g. Write the architectural pattern(s) in this architecture
3. Propose your extension
 - a. Based on the current needs, choose a new evolution area and write your reasoning
 - b. For the new evolution area, prepare an architectural change
 - c. Write the rationale behind the new architecture
 - d. Write the architectural pattern(s) in the new architecture
4. Prepare a report covering all the above tasks and following the instructions below.
5. Prepare a presentation covering all the above tasks.

Instructions

A-Report preparation:

The report should have the following properties:

- It should contain screenshots as well as diagrams of the actual application.
- It **should not exceed 20 pages** including the cover page.

- The report should be self-contained. That is, the reader shouldn't feel the need to refer to any code/web site for understanding what you have done, s/he only needs to refer to the reference if s/he feels curious about some implementation detail.
- Cheating is prohibited.
- Your own ideas and your own words are expected.
- Creativity is appreciated.

B-Report Submission details:

- Deadline: **26th of October, 24:00 PM.**
- Email subject: CS411 p#1 submission - [Name][Surname] (of the sender)
- Email body should contain: [Name] [Surname] - [Email address]-[Student ID] of all group members.
- Attach the report in (**pdf format only**) and send to *altunel@bilkent.edu.tr* and TA (TBD).

C-Presentation details:

Presentations should be prepared:

- Presentations **should not exceed 12 minutes**. All group members should present the project.
- The question & answer session **should not exceed 3 minutes, total of 15 minutes per group**. All group members should answer the questions.
- Following items are important:
 - Obeying the time limitation
 - Well organized presentation & slides
 - Answering the questions with proper details
 - Contribution of all team members
- Presentation date will be announced later.

Good luck