**Time: (5/27-6/29) 1 month**

**1. Project Proposal** (1-2 pages)

Objective: Provide a high-level overview of the portal website.

Industry Focus: Education Technology

Target Audience: University students, professors, and school management teams

Primary Functionalities:

//Education

Stakeholders

Students - Register for courses, Submit homework, Review remarks, Check grades

Faculty– Responsible to create homework, grade them, check plagiarism(Internal Canvas does)

Admins (IT dept of university)– Create courses and create homework, manage all the proles and responsibilities

School Managements - Assigns professors to courses, review class performance(Analytics, bell curve ), add drop students, Add courses, Review transcripts, send transcripts

Core Functional Requirements

1. Register And Drop Courses( Course Management System – identify times , scheduling classes, number of subjects )
2. Grading System (Submit work, review homework, plagiarism report)
3. Notification System - Remind Students to register for classes, Homework reminder, Professor individual or select multiple systems - etc
4. Analytics System - School Management - Actually at class level of students are performing, No of students getting enrolled, Classes gets filled each semester(capacity planning)

Format: PDF or Word document.

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Roles:

Akshat: Architecture Design, Backend Development

**Containerization Strategy (1-2 pages)**

* + **Objective**: To demonstrate how Docker will be used to containerize the application components. Create containers for all required services in the architecture design.
  + **Why Needed**: To learn and apply containerization techniques for consistent environments.
  + **Format**: Dockerfiles and Docker Compose configurations.

1. **Orchestration with Kubernetes (2-3 pages)**
   * **Objective**: To describe how Kubernetes will be used to manage and scale the application.
   * **Why Needed**: To understand container orchestration for deploying and managing applications at scale.
   * **Format**: Kubernetes deployment YAML files and explanations.

Word Allotted:

Akshat, Attila, Jean.

Shital role : **Security and Compliance (1-2 pages)**

* + **Objective**: To outline the security measures and compliance strategies for the application.
  + **Why Needed**: To ensure that students can implement security best practices and adhere to industry regulations.
  + **Format**: PDF or Word document.

Ashley: Marketing Manager, Slides,   
**Final Presentation (10-15 slides)**

* + **Objective**: To present the project, covering all components and demonstrating the application’s functionality and design.
  + **Why Needed**: To practice communication skills and the ability to effectively present technical information.
  + **Format**: PowerPoint or Google Slides.

Dhruv: Cloud Computing, Project Management  
Leni: Product Management, Product Design, Project Management

Maheswar: Project Management, Full-stack Development, Cloud  
Arch, Design, user stories, Estimation.

Project Components:

1. Abstract and objective ( 2 pages ) with clear information- Leni

What project you are working on, Elements  
  
1. Project Req( Proposal )  
A. Login Page ( Functionality )

A.1. Account sign up

A.1. 1. Login for students, Staff, Admin.  
B. Course Registration → Manual. ( Future Improvements API , UI )

B.1. Register for the courses using the drop down list.  
C. Log’s out.  
  
  
Future Improvements:  
1. Showing the course content along with course registration

2. Faculty login → upload course material

>>>

# Conversation Log

Karen Jin

19:44

I shared a Jam file with the meeting:<https://jamboard.google.com/d/1GjL0G66l3DvzCty-S59kdPh5zqh8gh8AmpjBj6ukFgg/edit?usp=meet_whiteboard>

Karen Jin

19:45

<https://jamboard.google.com/d/1GjL0G66l3DvzCty-S59kdPh5zqh8gh8AmpjBj6ukFgg/edit?usp=sharing>

Karen Jin

19:48

I have a suggestion to create a portal website that have feature:

Persona 1 student: 1. student can access courses folder read course materials and submit homework which including what we have in google drive. 2. Notifaication to 1 day before remind students homework due date and if the course cancel or holiday 3. send email internally to professor.4. check score

Persona 2 professor: 1. Upload course material. 2. grading student homework 3. Send group or individual email to student internally

maheswar barrenkala

19:48

<https://jamboard.google.com/d/1MJCzmA0412KaTvuoaKhb8G_tgTKfP6IU1u2YzUcQuFY/edit>

Karen Jin

20:04

<https://app.diagrams.net/>

MAHESWAR BARRENKALA

20:26

<https://docs.google.com/document/d/1c92q7GlVOPhockNIpXpIRR6n1nAuPMz228wYyKLbW5g/edit>

### **Expected Results and Format**

1. **Project Proposal:**
   * Clear and concise description of the application and its objectives.
   * Identification of the target industry and audience.
   * Overview of primary functionalities and benefits.
2. **Architecture and Microservices Design:**
   * Comprehensive architecture diagram with all components labeled.
   * Explanation of chosen cloud service models and types.
   * Detailed description of microservices, including their responsibilities and APIs.
   * Description of how components interact and the benefits of the microservices approach.
3. **Estimating Cloud Resources:**
   * Detailed estimation of compute, storage, and network requirements.
   * Assumptions and calculations clearly presented.
4. **Containerization Strategy:**
   * Dockerfiles for each microservice.
   * Docker Compose file to manage multi-container setup.
   * Explanation of the containerization process.
5. **Orchestration with Kubernetes:**
   * Kubernetes deployment YAML files.
   * Explanation of Kubernetes concepts used (e.g., deployments, services, scaling).
   * Description of the deployment and scaling strategy.
6. **Security and Compliance:**
   * List of security measures (e.g., encryption, authentication).
   * Compliance strategies for relevant regulations.
   * Explanation of how these measures protect the application and user data.
7. **Final Presentation:**
   * Slides covering all project components.
   * Clear and professional presentation of the project’s objectives, design, implementation, and security.
   * Visual aids (diagrams, screenshots) to enhance understanding.

### **Submission Guidelines**

* All documents should be submitted in PDF or Word format.
* Diagrams should be clear and professionally created using appropriate tools.
* Dockerfiles and YAML files should be included in the main documents with clear marks.
* The final presentation should be in PowerPoint or Google Slides format.
* Ensure that all files are named appropriately

### **Important Notes**

* Collaboration is encouraged for group projects, but each student must contribute significantly.
* For students who do not want to participate in group projects and do not have a specific app in mind, use NextMeal app as your project goal and finish all the above.
* Seek instructor assistance and participate in group discussions to enhance learning and project quality.
* Maintain academic integrity and properly acknowledge any external sources or assistance.