Project Number: P41

Project Title: Event Aggregation and Management Platform

Project Clients: Dr Basem Suleiman

Project Specializations: Software development/Engineering, Web/Mobile Application Development, Algorithms

Number of groups: 2

Background:

Event information is often disseminated through various sources on the web and other channels, leading to fragmented data that can be challenging to track and manage. This project aims to develop a web application that aggregates event information from multiple sources, creates summaries for each event, and manages and tracks these events for different types of users. The application will provide a comprehensive solution for browsing, filtering, and managing event information, enhancing user experience and event organization.

Scope

The project will focus on developing a secure, robust, and scalable web application with responsive design for both mobile and web platforms. The key functionalities will include user authorization and authentication for different roles, user profile management, event information aggregation, search and browsing capabilities, event management by admin users, and calendar management customized by users for selected events. The development will follow best engineering and development practices, including Agile methodologies and CI/CD, with a microservices architecture and API development.

Software Requirements:

User Authorization and Authentication:

- Multi-role user authentication (admin, regular user, etc.)
- Secure login and signup processes
- Role-based access control

User Profile Management:

- User profile creation and editing
- Profile details management (name, contact info, preferences, etc.)

Event Information Aggregation:

- Crawl and aggregation of event information from various web sources.
- Storage of raw and processed data following specified templates
- Automated summarization of event information

Event Search and Browsing:

- Search functionality with filters (date, category, location, etc.)
- Event browsing with sorting and filtering options.
- Individual event pages with detailed information

Event Management:

- Admin capabilities to create, edit, and delete event pages.
- Management of aggregated event information

Calendar Management:

- User-customizable calendar for selected events
- Event reminders and notifications

Design and other requirements:

- Mobile and web platform compatibility
- Intuitive and user-friendly interface design
- *Microservices and API-Based Architecture*
- API development for internal and external communication
- Agile development methodologies
- Continuous Integration/Continuous Deployment (CI/CD)
- Secure coding practices

Required Knowledge and Skills:

- HTML, CSS, JavaScript, React
- Python/Node.js
- MySQL/MongoDB
- AWS
- Docker/Kubernetes
- CI/CD: Jenkins, GitLab CI/CD
- RESTful APIs, GraphQL
- OAuth, JWT, SSL/TLS
- Scrum

Expected Outcomes:

- Robust and scalable architecture supporting seamless user experience across web and mobile platform.
- Fully functional application (robust, secure, and performance)
- Project documentation including source code, system architecture and design, UI/UX, different types of testing, user manuals and guide, technical guide.

Supervision:

- Dr. Basem Suleiman