Software Architecture Report

1. Purpose of the Software Project

- The PAEA project is a web application developed using ASP.NET, Entity Framework, Identity Framework (backend) and Angular (frontend). The primary purpose of this project is to create a food delivery application. Restaurant owners can add their restaurant, menu, products, prices, and other details, while users can order food from the restaurants listed in the application.

- Fulfilled Capabilities:

    - i) Browse available restaurants and their menus.

    - ii) Register an account and log in securely.

    - iii) Place food orders from the listed restaurants.

    - iv) View and manage their order history.

    - v) Administer users's roles through an administrative dashboard.

2. Guides

- Running the ProjectLocally: To run the project locally, follow these steps:

    - i) Clone the repository: https://github.com/inginerie-software-2023-2024/proiect-inginerie-software-paea

    - ii) Open the project in Visual Studio or your preferred IDE.

    - iii) Set up the database by running Entity Framework migrations.

    - iv) Update the connection string in the appsettings.json file.

- v) Build and run the application.
- vi) Building the Project

- Deploying the Project: Running the application (the green start button at the top bar of the IDE) will automatically run the application by opening it in the local browser.

- ContributionGuide
  - i) Patterns Used in the Application
    1. MVC(Model-View-Controller):Used to separate concerns and organize the codebase.
    2. Dependency Injection
  - ii) To add a new feature:

1. Create the database model if required (new entities) and add it to the database context file, then create a new migration and update the database
2. Create a new endpoint in the corresponding controller and implement the logic
3. Create a new view if needed

d. ApplicationEntryPoint

- i) HomeController: starting from the welcome page, through the buttons in the upper nav bar various features can be observed

- ii) Data Sources - Entity Framework: Acts as the primary data source, utilizing a SQL Server database.

- iii) Data Inputs: User inputs are primarily through web forms. Validation is implemented at both client and server sides to ensure data integrity.

- iv) Configuration Files - appsettings.json: Contains configuration settings, including database connection strings and other application-specific settings.

e. High-Level Diagrams of the Architecture

- i) User/Data Journeys
    1. UserRegistration:
        a. User navigates to the registration page.
- b. Enters required information.
        c. Submit the registration form.
    2. Food delivery:
        - User logs in.

        - Explores the Restaurants–Menus–Products in search for a order

- ii) Most Valuable Output: The most valuable output of the system is the seamless user experience in placing and managing orders

f. Deployment Plan

- i) As stated before, the application is currently running, with the project files available on the main branch of the Github repository

g. External Dependencies

i) APIs Used: As of today, the application doesn't use any external APIs

ii) Libraries

1. Swagger: for API documentation

2. Entity Framework Core: Responsible for querying and designing the database

3. Identity Framework: manages user authentication and authorization

iii) Dependency Vulnerability – As of today, there is no known

dependency vulnerability