**SpringBoot based application development with focus on introducing Microservices-based deployment**

**Given:**

* Basic version of Spring Boot project with following services:
  + Restaurant Search Service
  + Order Management Service

**Ask:**

* Implement services with following technologies:
  + Spring Boot, REST API, Junit, Spring Data/JPA
  + API Gateway: Zuul proxy
  + Service discovery: Eureka
  + Communication/Messaging: Spring Kafka
  + Configuration of application: Spring Cloud Config Server
  + Deployment: Docker containers
* Implementation of additional services: Customer Management and Review Management
* High code coverage

**Program Execution Plan:**

1. Minimum Expectations:
   1. Integration with API Gateway
   2. Integration with Service Discovery
   3. Deployment to Docker containers
   4. Integration with Spring Cloud Config
   5. Integration with Kafka
   6. Implementation of additional services
   7. Minimum 80% unit testing Code Coverage
2. Additional Expectations (Optional):
   1. Authentication service: Oauth2
   2. Circuit breaker: Hystrix
   3. Pagination, Performance, Scalability

**Program Design**

1. It's individual project work
2. 2 weeks program
3. Week 1
   1. Focus on understanding the existing code
   2. Write missing unit test cases
   3. Implement API Gateway and Service Discovery for these services
   4. Implement Spring Cloud config
   5. Implement additional services
4. Week 2
   1. Write unit cases with 80% code coverage for the additional services
   2. Verify the code quality using SonarQube
   3. Implement Communication between services using Kafka
   4. Move the services to Docker

**Sample Architecture:**

