Task for the Intermediary Developer Position (January 2024)

1. Please select the appropriate level of knowledge (0 – none, 10 – Academic): (*please use 0 if does not apply*)

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|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Java development |  |  |  |  |  |  |  |  |  | X |  |
| Front end JSP/XHTML |  |  |  |  |  |  |  |  |  | X |  |
| Frontend (Framework of choice Angular) |  |  |  |  |  |  |  | X |  |  |  |
| Javascript/HTML/CSS |  |  |  |  |  |  |  |  |  | X |  |
| Building/Consuming of Rest/SOAP Services |  |  |  |  |  |  |  |  |  | X |  |
| Database (any database) and SQL |  |  |  |  |  |  |  |  |  | X |  |
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1. Please select the appropriate level of experience in the last 3 years (0 – none, 10 – Full time):

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|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Java development |  |  |  |  |  |  |  |  |  | X |  |
| Front end JSP/XHTML |  |  |  |  |  |  |  |  |  | X |  |
| Frontend (Framework of choice ) |  |  |  |  |  |  |  | X |  |  |  |
| Javascript/HTML/CSS |  |  |  |  |  |  |  |  |  | X |  |
| Building/Consuming of Rest/SOAP Services |  |  |  |  |  |  |  |  |  | X |  |
| Database (any database) and SQL |  |  |  |  |  |  |  |  |  | X |  |
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1. Please select the level of experience Using IDE (0 – none, 10 – Highly proficient):

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|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Visual Studio |  |  |  |  |  |  |  |  |  | X |  |
| InteliJ |  |  |  |  |  |  |  |  |  | X |  |
| Eclipse |  |  |  |  |  |  |  |  |  | X |  |
| Netbeans |  |  |  |  |  |  |  | X |  |  |  |
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Designing Application Answer :

**a. Technology Used:**

* I would leverage Spring Boot as the backend framework for Java development, providing a robust and modular foundation for the server-side.
* For the frontend, I would opt for Angular, a powerful and feature-rich framework for building dynamic and responsive user interfaces.

**b. Development Language and Database:**

* On the server side, I'd use Java as the development language, employing the Spring Boot framework.
* For data storage, I'd choose PostgreSQL, a reliable relational database management system.

**c. Minimum Required Model Objects and Database Tables:**

* In terms of data modeling, I'd define a **User** model with fields such as **id**, **username**, **email**, **password**, and **registrationDate**.
* Similarly, a **Product** model would include fields like **id**, **name**, **group**, **price**, and **userReviews**.
* The **Order** model would have fields such as **id**, **userId** (foreign key), **productId** (foreign key), **quantity**, and **orderDate**.
* This would translate into three corresponding database tables: **users**, **products**, and **orders**.

**d. Server-side Technology:**

* On the server side, I'd deploy the application using Spring Boot, taking advantage of its embedded server capabilities, often using Tomcat.
* To ensure secure user authentication, I'd implement Spring Security as part of the backend technology stack.

**e. Client-side Technology:**

* For the client-side, I'd develop the user interface using Angular, which excels in creating dynamic and responsive web applications.
* The client-side code would involve TypeScript, HTML, and CSS, and communication with the server would be facilitated by Angular's HttpClient for asynchronous requests.

**f. Short Explanation of the System:**

* The system I envision is a web-based application that seamlessly integrates Spring Boot for the backend and Angular for the frontend. The backend, written in Java, takes care of user authentication, product management, and order processing. PostgreSQL serves as the reliable database to store user, product, and order information. The Angular frontend provides a smooth and responsive user experience, interacting with the backend through asynchronous HTTP requests. By incorporating Spring Security, the system ensures robust user authentication, making it a scalable solution for an e-commerce platform.