nagarro

Promotion Case Study

Assessment for Mobility Staff Engineer to Senior Staff Engineer

EMA
eCommerce Mobile Application

V2.0

Contents

1   Introduction

YCompany is one of the market leader in home electronics appliances. This has been their forte of excellence for last 30 years. From the beginning, company has focused intensively on delivery of quality products and services. It delivers more than 20 million products to homes. YCompany has 10 manufacturing sites distributed across the country. With its own 1500 sales outlets, there are around thousands of distributors and dealers countrywide.

YCompany already has an eCommerce website for its products. However with the evolution of new mobile platforms, YCompany is seeking to expand the range of channels to mobile devices such as smartphones or tablets. And also it will like to use mobile-specific functionality such as Geo-Fencing and Bluetooth Low Energy. Based on their review of existing technologies and the mobile-solution marketspace, they believe this solution must be available at least on Android and iOS platforms.

2   Project Requirements

YCompany is willing to take advantage of the latest mobile technologies advancements and trends in the pursuit of business expansion and its service excellence. They envision an eCommerce app, for both Android and OS, which is fast and fluid and specifically optimized for mobile, engages most loyal users and allows user to make fast and easy purchases.

The key requirement considerations for this mobile application are:

- One and optimized experience across all devices i.e. smartphones as well as tablets and also platforms iOS, Android.
- Customer should be able to move across platform and devices seamlessly preserving his cart.
- Optimized, fast and secure checkout adhering to compliance and best practices.

2.1   eCommerce Mobile Application

The end customers are users or potential users of the products of the YCompany. These applications will be distributed to the general public for use through the respective app stores. YCompany will like to integrate with existing backend to provide mobile based services/data. The solution should provide following features to provide a world class experience.

- o   Provide product listing and its details
- o   Real time offers, discount alerts
- o   Fast and easy checkout
- o   Location aware notifications
- o   Provide mapping and navigation assistance to find the near YCompany outlet
- o   Usage of iBeacons to find the item within an outlet

3   Design Requirements

Below are some general requirements for YCompany eCommerce mobile app.

3.1 Architectural Principles

Proposed solution should be based on the following architectural principles
- The application should work in case of no internet connectivity
- Design for evolution and flexibility
- Design for reuse
- Secure payments
- Use automated build and continuous integration

3.2 Functional Requirements

The YCompany eCommerce mobile application should have the following capabilities:

1. Login based as well as anonymous checkout.
2. User Account management
    - My Profile
    - My Orders
    - Products
    - Wish list
    - YCompany loyalty program integration
3. Promotional Banners
4. Product Listing Page and also category wise navigation
5. Product detail page
6. Search for products, filter, refine, sort.
7. Context aware Offers and Discounts
8. Cart and Checkout with various payment options
9. Track shipments
10. Search store/ YCompany outlet
11. The system should enforce encryption strategies for sensitive data at rest.

3.3 Non-Functional Requirements

1. Application must provide high performance and responsiveness.
2. The default of the application will be English but it must be able support other languages too.
3. Real time usage and crash analytics must be provided.
4. Application must be sustainable and scalable.
5. Application must support various Android and iOS form factors.
6. Application must work even on slower networks such as 2G etc.
7. Battery and memory consumption of the application should be kept to minimum

4 Artifacts

Following artifacts should be used to complete the assignment.

1. Estimation
   https://nagarro.sharepoint.com/sites/ascoe/pages/detail.aspx?id=1&type=Templates

2. Solution Approach Design Document
   https://nagarro.sharepoint.com/sites/ascoe/pages/detail.aspx?id=9&type=Templates

3. DAR Document

   [Company]-[Project] -
   DAR Document - v0.x›

5 Assignment

Following is the overall tasks for the assignment of the project.

Sr.	Question	Technology	Details
1	Create a DAR document for evaluation of tools and technologies for the choice of development platform. **Note:** *Your document should have detailed comparison of tools / technologies and your recommendation out of those.*	Mobile	DAR Document containing: 1. Identification and explanation of development platform for comparison 2. Explanation of each attribute of comparison in detail 3. Comparison Matrix 4. Risks 5. Assumptions 6. Pricing 7. References
2	Create a Solution Approach Document containing high level solution design. **Note**: *Use Solution Approach template for this. Pull out NFR in a single page as you think appropriate. You also need to provide*		Your solution approach must have following concepts: 1. High level design of any module of your choice covering ER-diagram, class diagram, sequence diagram etc. 2. Detailed solution architecture covering multi-layer design and approach

	the source files (Visio) of the diagrams you have created.		3. Non Functional Requirements Coverage 4. Technology Stack 5. Performance and Scalability 6. Assumptions & Scope (In Scope/Out Scope) 7. References / Appendix (if any)
3	Create an estimation for the above mentioned selected technology. **Note**: *Use Estimation Sheet Template. Also provide the tentative schedule & resource plan for the project implementation.*		Cover all stages of below phases in excel and give final numbers. 1. Requirement Specifications and System Design 2. Implementation 3. Testing 4. UAT 5. Documentation, Go-Live, and Transition to operations 6. Project Management and Coordination
4	A minimal working POC showcasing the key features of the proposed solution.	Mobile	The evaluation criteria will be focused on below key concepts rather than solely on coding and full fledge implementation: • Design considerations of the application • Modules of the application • Appropriate project folder structures for various layers like presentation, business, data access etc.

6 Guidelines

- Take relevant assumptions during the application architecting/designing wherever either requirements are not clear to you or the information required is not provided in this case study.

Following guidelines must be adhered when you create your deliverables.

1. Your deliverables such as documentations etc. must be **Client Ready** presentable format. It means that your deliverables should not have any grammatical mistakes, formatting issues etc.
2. Please try to stick with the format of the templates provided in the section 5.
3. For diagrams, you can use or take hints from AG – architecture design guidelines which you can find at: http://coe/portfolio/diagram-preparation-guidelines-best-practices
4. Your POC solution must be zipped after cleanup of all referenced assemblies if there is any. However, your solution should be able to build/compile and run after unzipping.