



SHOPRITE MOBILE APP

PROJECT DOCUMENTATION



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GROUP COMMUNICATION METHODS REPORT

This report states the methods we used for communication as the group members, what worked, what was tried, and what was not working. It also discusses the communication per member, those that communicated well, those that did not communicate timeously, and those that did not communicate at all.

1.COMMUNICATION METHODS:

- WhatsApp group chat- This has been our primary form of informal communication. It is where most updates, announcements, and most documentation are shared. We use this form to accommodate everyone who has no uncapped fiber at home. This method has worked well for everyone.
- Teams meeting- Regular team meetings have been scheduled for serious project discussions, for broadcasting our screens easily when we want to share information and making use of a more formal platform for serious work communications.
- Collaboration tools- The only successful collaboration tool we have been able to use has been cloud storage. This is where we easily store and share documentation amongst everyone in the group at once to avoid wasting time and for easy accessibility and editing.

2. SUCCESFUL COMMUNICATION APPROACHES:

- Clear Documentation- Members always made sure to keep their work as clear and a little concise as possible to avoid confusion and misunderstandings.
- WhatsApp group chat- Group members actively participated in every discussion that was raised which made it easier to hear everyone's opinions.
- Utilization of collaboration tools- We were able to easily store documentations and had easy access to the work done by the group. This tool also made it possible for our work to be safe should anything happen to anyone's device.

3. ATTEMPTED COMMUNICATION STRATEGIES:

Teams meeting- As much as the tool is more formal and should be an approach we mostly use; we have encountered many problems while using it. Problems including not having uncapped Wi-Fi at home to join the meetings, weak internet connections for most people. We are still learning how to work with this platform successfully.

4. AREAS OF IMPROVEMENT:

- Timely Communication- Few members have been noted for delayed responses, impacting the overall pace of the group as we are a small group. Encouraging timely communication is crucial for project success.
- Communication Gaps: There are instances where crucial information like work that should be done at a certain time is not effectively communicated to all members, leading to misunderstandings. Addressing these gaps through improved documentation and targeted communication is essential.

5. MEMBER COMMUNICATION ASSESMENT:

- Effective communicators: Mr. SB Ratia.
- Timeous communicators: Mr. M Nqabeni, Mr. SG Nohamba, Mr. RK Paledi, Ms. A Mlahlwa, Ms. O Raqa.

TASK ALLOCATION

Shoprite mobile App Development

Team Members:

1. Ratia SB / Raqa O

Skills: Java programming, Android app development, and UI/UX design.

Tasks:

- Lead developer responsible for the application's backend logic
- Implementing fundamental features and algorithms

Provisional Timeframes:

- Backend development: March - May
- UI/UX design integration: June - July
- Testing and system debugging: August – September

2. Mlahlwa A / Nqabeni M

Skills: Java programming, database management, and software testing

Tasks:

- Database design and management
- Developing and executing test cases

Provisional Timeframes:

- Database design: March - April
- Testing and debugging: May - July
- Records: August – September

3. Nohamba S / Paledi RK

Skills: Java programming, front-end development, and version control.

Tasks:

- Front-end development and UI implementation
- Version Control and Repository Management

Provisional Timeframes:

- UI development: March - May
- Integration with backend: June - July
- Version control: Throughout the project duration

4. Ratia SB / Nohamba S

Skills: Java programming, project management, and communication

Tasks:

- Coordination among team members
- Requirements collection and documentation

Provisional Timeframes:

- Requirement gathering: March - April
- Project management: Throughout the project duration

Learning Timeframes for New Skills:

If any team member needs to acquire new skills:

- Java Applications Online course: February - April
- Database Management Course: February - March
- UI/UX Design Course: April - May
- Git version Control Course: February – March

Note: Schedules are provisional and subject to change based on project progress and requirements. If necessary, changes can be made to meet project deadlines and ensure high quality results.

GROUP ORGANIZATION

Detailed Report on Roles for every group member

This is a detailed report on the roles performed currently and the roles to be performed when the project is in progress, why the members were given certain roles and why not.

1. Communication - Ms Raqa O

2. Task Allocation - Mr Nqabeni S & Ratia SB

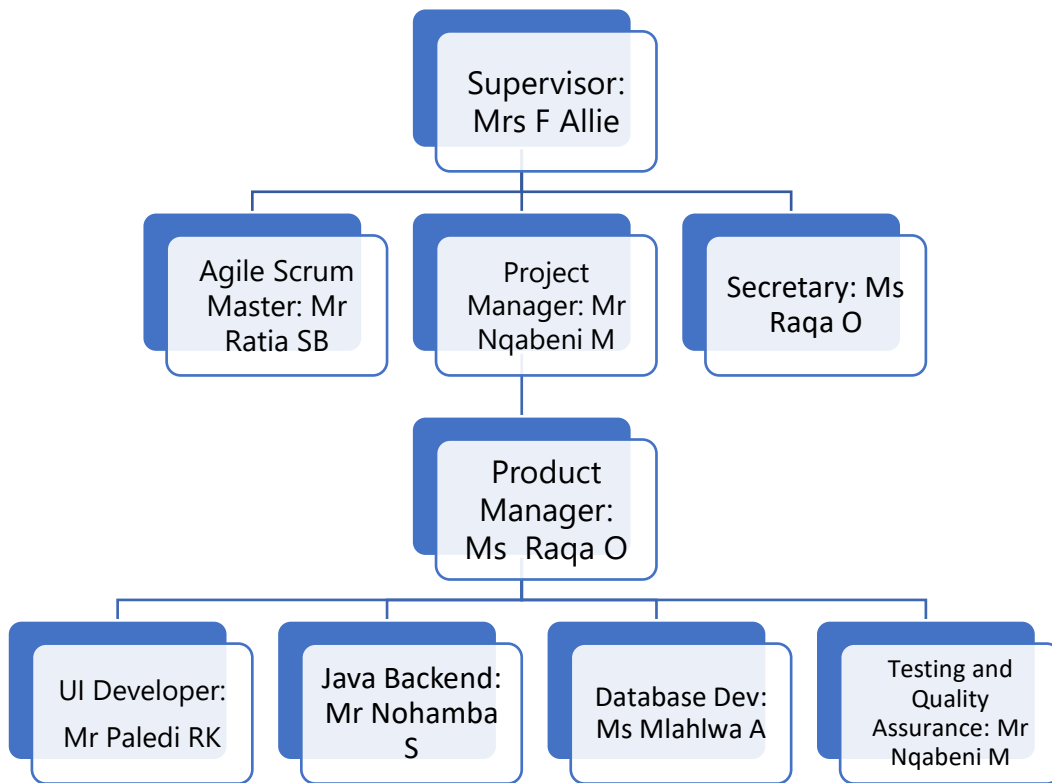
3. Group Organisation - Ms Mlahlwa A

4. Problem Definition - Mr Nohamba S, Mr Paledi RK & Ms Raqa O

5. Technology & Scope - Mr Ratia SB, Mr Nqabeni S & Ms Mlahlwa A

- Mr Nqabeni is our Project manager who were also guided by the founder of the group Mr Ratia SB, when there's no clear communication, he is there to give out roles and showcase his leadership skills, also worked on the Technological Scope
- Followed by Ryan Kgapjane Paledi who is his secretary he provided us with the problem definition and explained more about it.
- Nohamba SG and Ratia SB as the application developers
- Ongeziwe Raqa Mediator who also works on the technical side of the project e.g. hosting meetings.
- Mlahlwa A and Paledi RK will serve as Database engineers.

Roles for Version 2



1. Project manager – Ratia SB he's good with communication and he expressed good leadership skill by organizing the group.
2. Secretary – Raqa O. Is good at writing. She will be responsible for keeping project documents.
3. (User Interface) UI Developer- Paledi RK He is good at making investigations and communicating.
4. Database engineers are going to swap places with the application developers because we all as a group need to learn something from this project.
5. Testing and Quality Assurance – Mr Nqabeni and Ms Raqa O will work identically in making sure the app meet the high standard and can meet end-user's requirements.

Please note the positions are subject to change based on the skill needed of all members.

PROBLEM DEFINITION

Problem Definition

IDENTIFIED PROBLEM:

- It has come to our attention as Cape App Developers that many Shoprite stores are always crowded and busy, this then makes it difficult for their customers to shop efficiently. Due to this they have long lines and long waiting times which leads to frustrations and negative shopping experiences.
- Another issue is that some customers face difficulties when it comes to transportation of getting to and from the store.
- Customers with disabilities face more challenges when they need to get their groceries as they need to pay more when it comes to the transport for people with disabilities and they also are not catered for on the shop aisles.
- While on the other hand older people also face challenges like navigating their way to the stores and the walk between the aisles looking for the groceries they need.

SOLUTION:

- We then saw that a suitable solution to the problem is to design a mobile application that will allow the customers to place orders for the groceries they need from anywhere. These groceries will then be delivered to wherever the customer wants them to be delivered to. The application would allow customers to browse the entire inventory of the store, add items to their cart, and select a delivery time that is suitable for them.

List of business requirements for the solution

Customers must be able to:

- search and select products from the ShopRite inventory.
- add and delete items to their cart and place an order.
- select a delivery time and location of their choice.
- pay for their order using a secure payment system or even using cash.
- track the status of their order and receive updates on their delivery especially when there are any changes.
- contact customer service if they have any questions or issues with their order.

The system must be able to:

- handle a high volume of orders and deliveries and not break under pressure.
- process payments quickly and securely.
- handle customer inquiries and provide customer support.
- scale to meet the needs of ShopRite's growing business.
- integrate with ShopRite's existing systems, such as inventory management and financial systems.

List of users that will benefit from the system and the role these users play in the system.

There are several different types of users who will benefit from the ShopRite system. These include:

- ShopRite customers, who will be able to order groceries and have them delivered to the location of their choice.
- ShopRite employees, who will be able to process orders, pack and deliver groceries, and provide customer support.
- ShopRite managers, who will be able to track orders, inventory, and delivery times.
- ShopRite IT staff, who will be responsible for maintaining and updating the system.
- ShopRite executives, who will be able to track the overall performance of the system.

TECHNOLOGY & SCOPE

Shoprite mobile App Development Technologies

Detailed description of the technologies that would be used along with the scope of the project:

1. **Programming Language:** Java and Kotlin would be the primary languages for the backend development due to its robustness, scalability, and vast ecosystem of libraries and frameworks. Java offers features such as multithreading, which could be crucial for handling concurrent user requests in a shopping application.
2. **Framework:** Spring Framework would be an excellent choice for building the backend of the application. Spring provides comprehensive support for building enterprise-level applications with features like dependency injection, aspect-oriented programming, and robust security mechanisms.
3. **Database Technology:** For storing product information, user data, and transaction records, a relational database management system (RDBMS) like MySQL will be used. This database offers Atomicity, Consistency, Isolation, and Durability (ACID) compliance, which ensures data integrity, crucial for financial transactions in a shopping app.
4. **IDEs:** IntelliJ IDEA, Eclipse and Netbeans would be used as Integrated Development Environments (IDEs) for Java and Android development. Both IDEs offer robust features for code editing, debugging, and project management, making them suitable choices for Java development.
5. **Execution Platform:** The application would be deployed on a cloud platform like Amazon Web Services (AWS) or Microsoft Azure. These platforms offer scalability, reliability, and a wide range of services such as computer, storage, and networking, which are essential for hosting a production-level shopping application.

Scope of the Project:

Included:

- User authentication and authorization: Implementing secure user authentication and authorization mechanisms to ensure that only authenticated users can access the application and perform actions like placing orders and managing their profiles.
- Product catalog management: Allowing administrators to add, update, and delete products from the catalog. Users should be able to browse and search for products based on various criteria like category, price range, etc.
- Shopping cart functionality: Allowing users to add products to their shopping carts, update quantities, and proceed to checkout for placing orders.
- Order management: Providing functionality for users to view their order history, track the status of their orders, and cancel orders if necessary.
- Payment gateway integration: Integrating with a payment gateway like Stripe or PayPal to facilitate secure online payments for orders.

Excluded:

- Advanced features like real-time inventory management or recommendation engines: These features can significantly increase the complexity of the project and may not be essential for an initial version of the application.
- Support for multiple languages or currencies: Initially, the application could be developed to support a single language and currency, with plans to add support for additional languages and currencies in future iterations.

Reasons:

- Focusing on essential features ensures that the project remains manageable in terms of development time, resources, and complexity.
- Excluding advanced features allows the team to deliver a minimum viable product (MVP) more quickly, enabling them to gather feedback from users and iterate on the application based on real-world usage and requirements.

This approach will enable the team to build a robust and scalable Java shopping app that meets the needs of users while also allowing for future enhancements and iterations based on feedback and evolving business requirements.