

University of Rwanda

Nyarugenge campus

Department of computer engineering

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Group members

| NAMES | REGISTRATION NUMBERS |
|--------------------|----------------------|
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MODULE: MOBILE COMPUTING

INSTRUCTOR: UKURIKIYYESU DIEU DONNE

PROJECT NAME: SMART CHILDREN HEALTH MONITORING APP

PROJECT STATEMENT:

In Rwanda, malnutrition affects many children due to food insecurity, lack of nutritional awareness, and limited healthcare access in rural areas. To address these challenges, this project will implement a Flutter-based mobile application for real-time tracking and management of child health and nutrition.

LITERATURE REVIEW:

Existing mobile applications like CommCare and RapidSMS have been used to monitor child malnutrition by supporting health workers in data collection and management. While these solutions improve intervention strategies, they often lack user-friendly interfaces and efficient offline functionality. This highlights the need for an advanced Flutter-based mobile app to enhance nutritional tracking and support in Rwanda.

OUR MVC COMPONENTS:

1. Model: Manages data and business logic, including entities like Healthcare Workers, Parents, Children, Health Data, Reports, and Notifications.

Database integration (SQLite, or MySQL with API),

CRUD operations,

Processing data and report generation.

2.View: Represents the user interface with Flutter screens for login, dashboards, data entry, reports, and notifications, and recommendation using responsive widgets (ListView, TextField, Card, Chart, Snackbar) for an intuitive experience.

3.Controller: Manages user interactions and state using Provider, handling authentication, data processing, notifications, and navigation.

Ensure data operations through specific actions like **adding, reading, updating, and deleting (CRUD)** data for child health records, user accounts, reports, and notifications in the single Row

Flowchart:



Entity Relationship Diagram (ERD)



