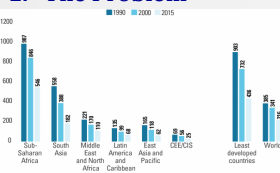


GRAVID: An Indigenous m-Health App for S&CC

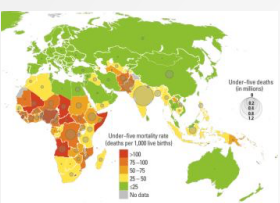
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1. The Problem

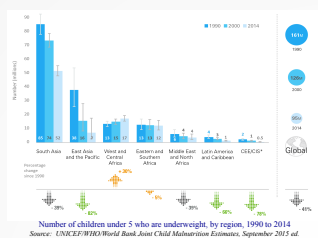


Maternal mortality ratio (maternal deaths per 100,000 live births in women aged 15 to 49), by region, 1990, 2000 and 2015. Source: WHO, UNICEF, UNFPA and The World Bank, WHO 2015



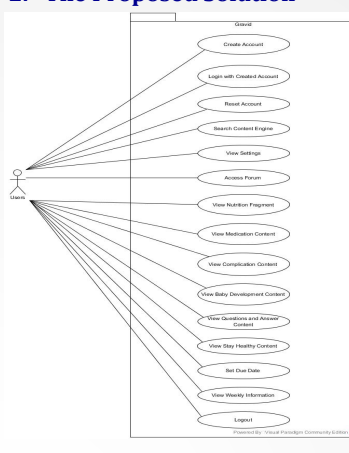
The highest national under-five mortality rates are found in sub-Saharan Africa. Source: UN IGME, UNICEF, New York 2015

- Maternal and child mortality remains a major public health problem in the sub-Saharan Africa and especially in Nigeria.
- Under-nutrition contributes to nearly half of all deaths in children under 5 and is widespread in Asia and Africa.
- Globally, the number of children suffering from underweight continues to decline; but in West and Central Africa, underweight is on the rise.

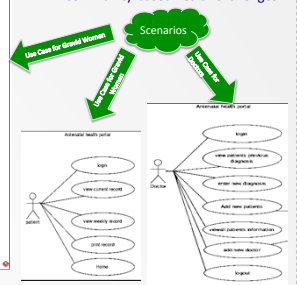


Number of children under 5 who are underweight, by region, 1990 to 2014. Source: UNICEF/WHO World Bank Joint Child Malnutrition Estimates, September 2015 ed.

2. The Proposed Solution



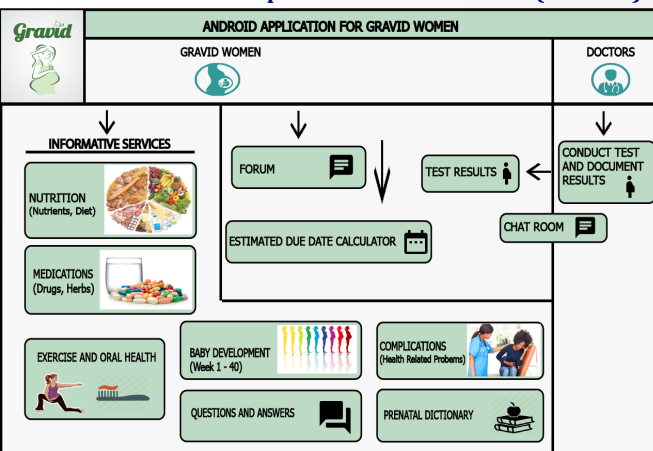
- It is crucial to address the gap of unavailability of context-based nutrition-related information for improve prenatal, neonatal and postnatal care.
- The rapid proliferation and ubiquitous nature of mobile IoT-driven smart communities paradigm promises a unified framework for tackling these community-based health challenges.



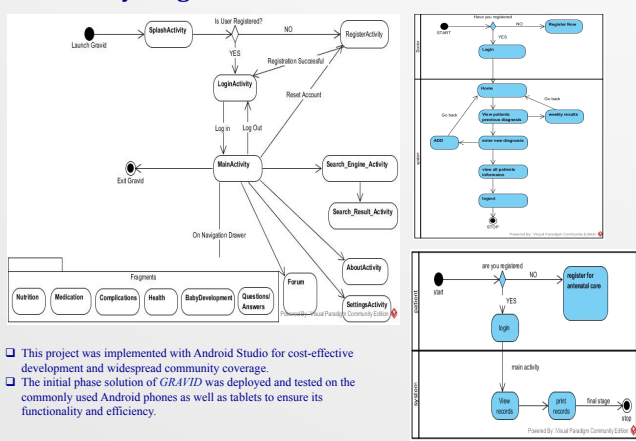
3. Description of the System

- GRAVID is an indigenous smart application that addresses the gap of unavailability of context-based nutritional, drug and substance abuse as well as medical information appropriate to meet identified needs of gravid women and subsequently their babies (for 5 years); within the African context.
- GRAVID also provides a monitoring tool for the healthcare givers to track the progress of the gravid woman they oversee.
- It is intended that this solution will also provide a source of collecting data to update necessary information as well as addressing related community-based issues to reduce the maternal and child mortality rates.

4. Architecture of Proposed mHealth solution (GRAVID)

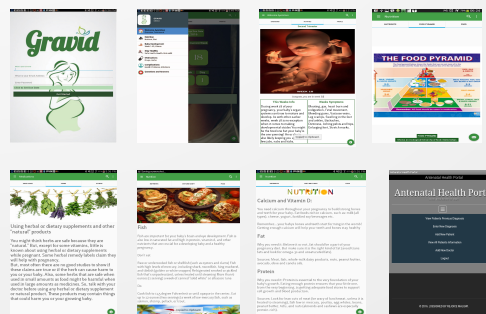


5. Activity Diagram for GRAVID



- This project was implemented with Android Studio for cost-effective development and widespread community coverage.
- The initial phase solution of GRAVID was deployed and tested on the commonly used Android phones as well as tablets to ensure its functionality and efficiency.

6. Screenshots of GRAVID as deployed at the Initial Phase



- The subsequent phases will be deployed with regular updates from national health professionals (such as nutritionists, midwives) to enhance prenatal, neonatal, postnatal and subsequent under-five care services in the community.
- It is intended for use by gravid women and their relatives as well as community health workers.