

CO-DESIGNING A VETERINARY APPLICATION FOR BETTER ANIMAL HEALTH IN PASTORAL AREAS

Dr. Derrick N. Sentamu | University of Nairobi, Compwiz creations | Status Seminar | 4th June 2025

Supervisors: Dr. Joshua O. Onono, Dr. Raphael Lotira Arasio, Dr. Dennis Makau

Compwiz Creations: Mitch Ochieng, Timothy Serem, Randell Hera



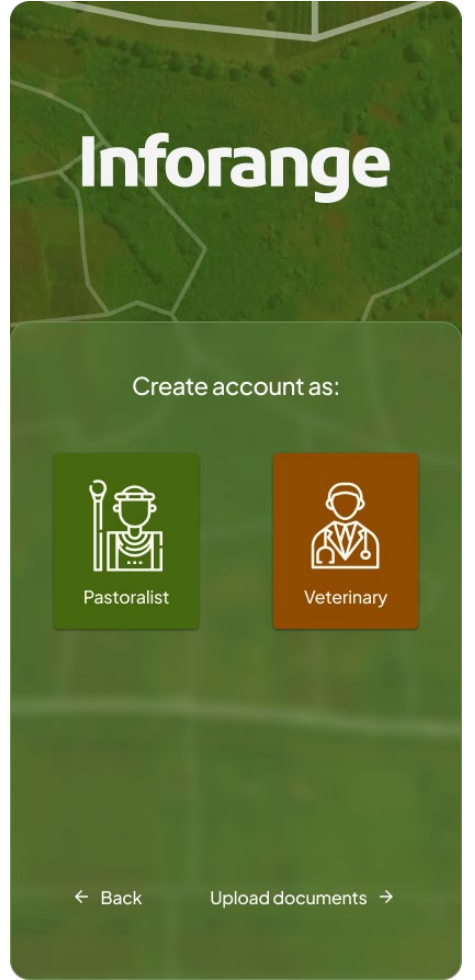
INTRODUCTION



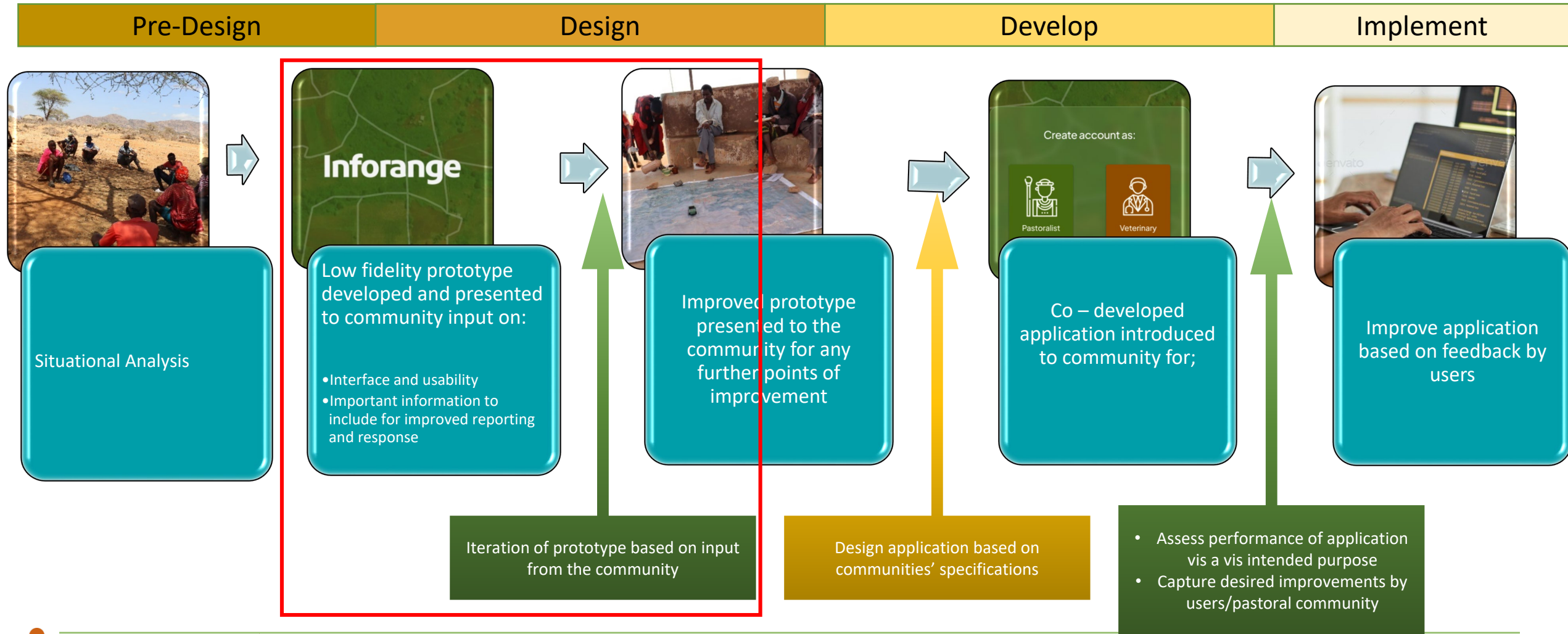
- Livestock diseases contribute to major losses to pastoralists in Kenya
- Government veterinary services are under resourced while Private Veterinary Services are largely absent
- Pastoralists are eager to share disease information to stakeholders who can provide effective animal health services
- Current official livestock disease sharing system is limited
- Recent studies show: 1) Phones use 2) There are various stakeholders, in disease reporting and response

Aim of this study:

To engage various stakeholders in pastoral communities in the process of co – development of a mobile application for disease reporting and response



CO – DESIGN PROCESS



METHODS

Study area: Northern Kenya, Marsabit subcounty

Methods:

- 20 Focus Group Discussions across 12 study sites each averagely consisting of 7 pastoralists
- 30 In depth interviews with Community Disease Reporters (CDRs), Chiefs and Animal Health Workers (AHWs)

COMPONENTS OF PROTOTYPE 1

1. Map layer
 2. Camera and chat functions
- Sessions recorded and notes written down
 - From both FGDs and KIIs, over 30 hrs of recordings transcribed and analyzed



2 days for discussion amongst themselves

Suggested improvements
Participants –
Researcher

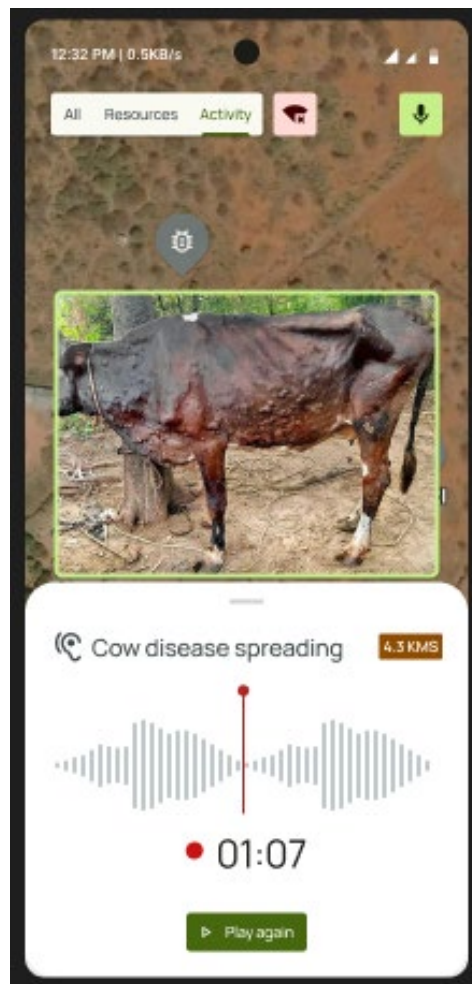
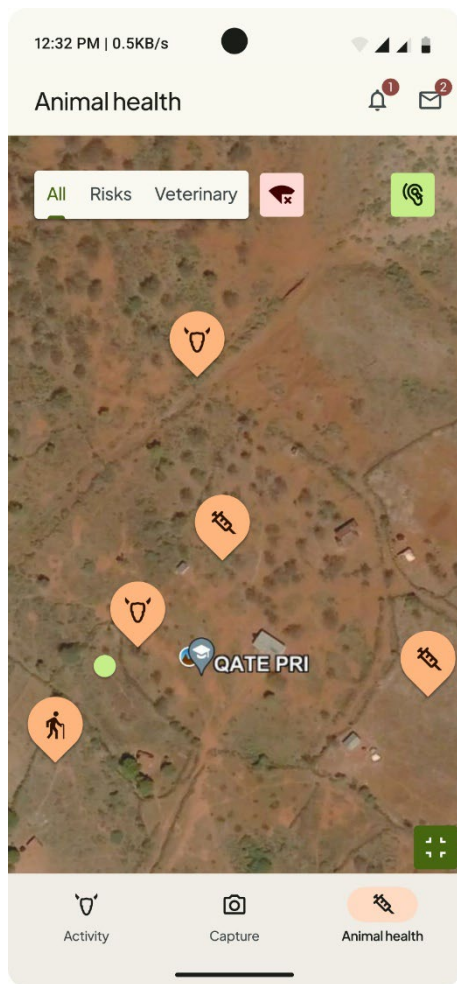
COMMUNITY INPUT ON MAP LAYER

MAP LAYER CONTENTS

- Locations of government, private and traditional animal health workers
- Disease report indications – Different Icons to represent diseases of different species
- Common mass vaccination points
- Animal Insurance Centers
- Display vector, parasite and wild animal hotspots
- Various disease risk factors such as: Tree cover, rainfall, temperature and waterpoint distribution
- Animal traffic
- Conflict stricken areas
- Livestock Markets

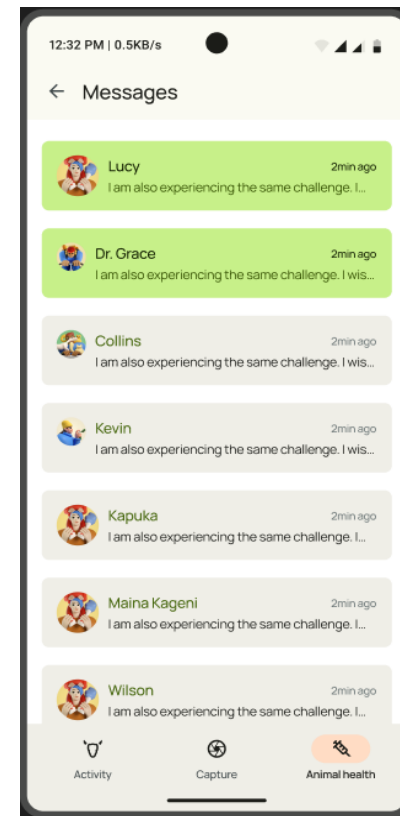
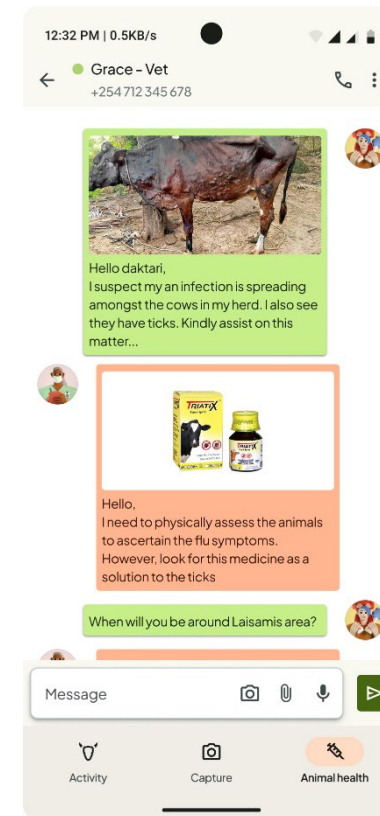
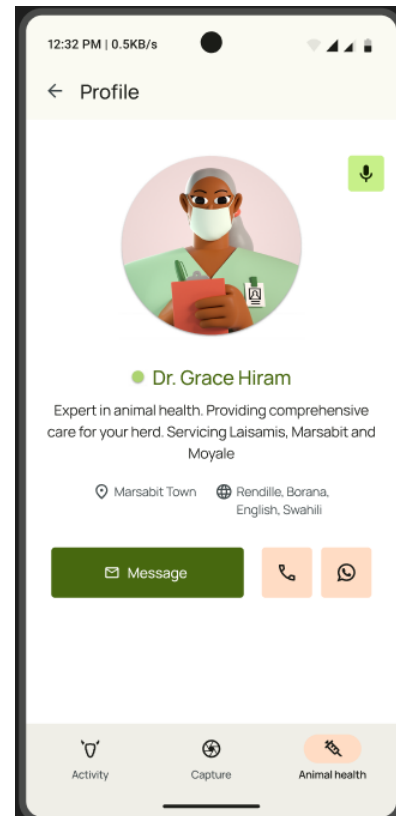
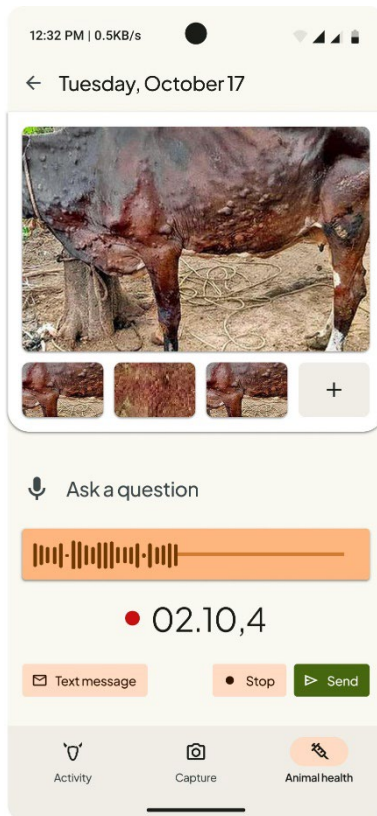


IMPROVED/ITERATED DESIGNS – MAP LAYER



- All users of application able to see distribution of reports over map layer (tick icon)
- Tapped icon reveals the report (both image and narration)

CAMERA AND CHAT FUNCTIONS



“We would like to capture the image of an animal that is sick and send it to someone that can assist us using audio”
(Pastoralist, Lokshura, FGD, October 2024)

DESIRED FUNCTIONALITIES AND INFORMATION

COMMUNITY DISEASE REPORTERS (CDRs)



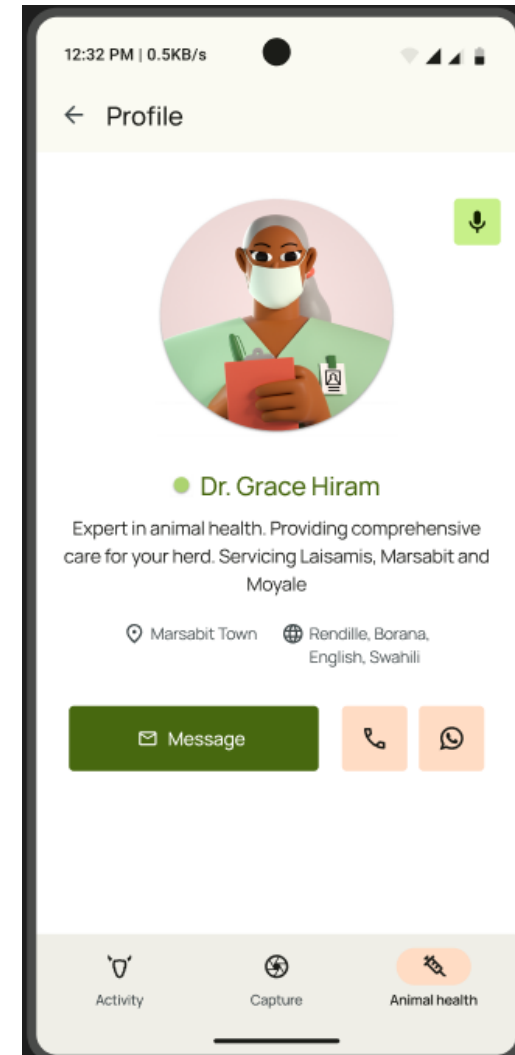
- **CDRs share disease information between the community and government authorities**
- Map layer should have names of prominent features/locations to ease the process of navigation
- Emphasis on provision of pictures to ease reporting process. For example when reporting signs.
- Integration of local languages (for example disease signs in local languages)
- Consider use of videos to share knowledge within the application
- Feedback from AHWs regarding response to their reports

DESIRED FUNCTIONALITIES AND INFORMATION

PRIVATE AND GOVERNMENT ANIMAL HEALTH WORKERS



- Map layer - A key/legend should be included for easy interpretation of what the various icons/features mean.
- All livestock species should be included within the application
- Notifications concerning ongoing government programs like mass vaccinations and treatments.
- Ability to mobilize users for government veterinary interventions
- Partner technical stakeholders included especially for zoonoses information. (Public Health Officers and medical officers)
- Offline functionalities



CONCLUSIONS

- The needs of local stakeholders are specific
- Their input is important in 1) development of interventions that are meaningful to their communities 2) Adoption and ownership of interventions by target users

ACKNOWLEDGEMENTS



RESEARCH ASSISTANTS (Peter Orguba, Mathew Leamo, Gabriel Dida), COMMUNITY MEMBERS (Joram Idhooro, pastoralists, CDRs, AHWs, Chiefs)

THANK YOU FOR LISTENING