

Ask RHU:

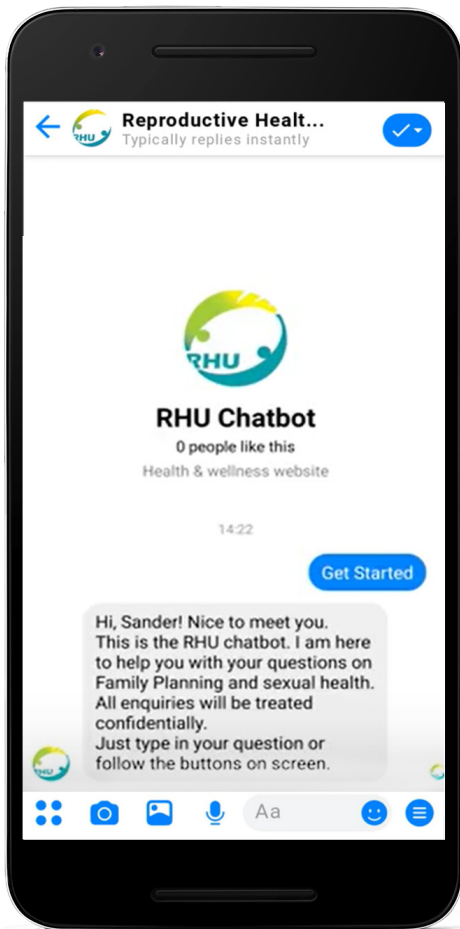
A case study in leveraging innovative mHealth solutions to improve young people's sexual and reproductive health and rights (SRHR) in Uganda

“How do I ensure I don't fall pregnant?” - a common question heard in Reproductive Health Uganda (RHU)'s clinics across Uganda every day. Young people want to make healthy sexual and reproductive health decisions, yet do not have the information they want and need.

The growing momentum in mobile usage in Uganda and Mobile Health (mHealth) developments presents a unique opportunity to address the gap in SRHR information and knowledge - especially for young people. Making progress in how we understand, think and act together is critical to achieving universal access to SRHR, and artificial intelligence (AI) can help analyse, predict, learn and inform decision-making. AI allows automated and streamlined responses, and can process a large number of requests without the need for call centres or searching online for information that may prove inaccurate or inappropriate.

SafeHands, in partnership with one of Uganda's foremost SRHR providers, RHU, and chat commerce expert, Say It Now, are developing an automated information service - *Ask RHU*: a mobile messaging service that delivers instant, accurate and reliable information on safe sex to young people in Uganda.

Using AI, *Ask RHU* is a chatbot that users access on Facebook Messenger to obtain personalised and appropriate information on unwanted pregnancy, contraception, HIV and Sexually transmitted Infections (STIs). Users ask a question, receive an answer instantly and are referred to a nearby RHU youth-friendly clinic using GPS location. By transforming mobile phones into a trusted companion and adviser for young people, *Ask RHU* holds the potential to generate positive change for young people's SRHR.



Ask RHU will be available on Facebook Messenger to answer questions on safe sex.

Adolescent SRHR Indicators, Uganda 2019¹

66%  of Ugandans are under 24 years old.

40% of unmarried sexually active women age 15 - 24 use modern contraception



1 in 6 young women will be pregnant by the age of 20

Urban Women	first have sex at	marry at	first use contraception
	17 years old	20 years old	21 years old

Rural Women	first have sex at	marry at	first use contraception
	16 years old	19 years old	23 years old

Uganda: At the centre of a mobile revolution

25.3 million mobile users

56% SIM penetration | 97% of SIMs are pre paid

Mobile broadband is growing consistently at 50% per year.²

85% of the country is reached by MTN Network alone.

MobileMoney is **REVOLUTIONISING** the movement of money.³

4G deployment since 2011, with 5G coming soon.

Practical Experiment

Where there is a mobile signal, there is potential for better health care. Rapid advances in mobile technology present new opportunities to improve global health and universal access to SRHR. *Ask RHU* is an innovative mHealth solution to address young people's access to SRHR information that complements youth-friendly SRHR services. By applying best practice from mHealth, *Ask RHU* will bridge a gap in SRHR information for young people, and encourage users to understand and remember the information provided, and use the information in their daily lives.

This study provides an overview of **real-world application** of building and developing a chatbot that uses AI to provide instant, safe and reliable SRHR information to young people between 12 – 25 years old. It also serves as a primer for those interested in the key basics for **building and developing** an mHealth automated messaging platform.

Our practical experiment aims to understand if *Ask RHU* can increase access to SRHR information and complement the delivery of youth-friendly services.

Ask RHU aims to harness the next wave in mobile technology using AI to provide personalised, tailored communication on youth-friendly SRHR information in a confidential and non-judgemental way. In 2019 – 2020, we are carrying out a practical experiment in Fort Portal, southwestern Uganda to consider how *Ask RHU* can generate insight into:

- achieving significant impact by reaching young people who lack access to accurate and reliable SRHR information
- increase the quality and cost-effectiveness of delivering youth-friendly services.

Chatbots use:

- » **Software that conducts a conversation through voice or text**
- » **Artificial intelligence (AI) to imitate human conversations to solve tasks.**

Evidence from the e-commerce sector shows chatbots can improve customer engagement and reduce operational costs.

Phases in *Ask RHU* practical experiment, 2019 – 2020

Preparation	June - September 2019 <ul style="list-style-type: none">• Design of practical experiment, hypothesis, and plan for implementation• Reserach and analysis of mHealth initiatives and key data on mobile connectivity and usage in Uganda• Partnership development and alignment.
Development	September - December 2019 <ul style="list-style-type: none">• Basic functionality designed: select channels, product goals and metrics• Content design through personas, user journeys and stories to establish a Minimum Viable Product (MVP)• MVP designed and tested in short 'sprints.'
Field Test	January - April 2020 <ul style="list-style-type: none">• Field test with 1,000 young people• Consistent improvement based on usage, feedback and functionality• Monitor key metrics including requests resolved, types of questions and language, and dissagragated data on users.
Conclusion	April - May 2020 <ul style="list-style-type: none">• Evaluate key metrics any effect of chatbot on service delivery• Conclude on evidence to support our hypothesis• Recommendations on expanded use and potential for scale-up.

Real-World Application

The foundation of the product development phase relies on a user-centred design in order to create a product that meets the challenges and needs of our end users. We ensure that all elements of our product design consistently place the user experience at the centre.

The user-centred design approach helps to understand our users' customer segment, and create an appropriate product and information service that meets their needs. By involving young people and service providers at the very centre of our design, we gain a deeper understanding of users, the wider community and their environment, and generate a service that is needed and appropriate. Our first step in this user-centred design was the convening of a Co-Design Workshop in Fort Portal, together with RHU service delivery teams and youth volunteers from RHU's Youth Action Movement (YAM).

Major functional elements include:

1. Set Product Goal

What challenge does Ask RHU aim to address?

The RHU Automated information service will use prevalent messaging channels to allow for anonymous 24/7 access to our information and services. The name of our automated information service, *Ask RHU*, values the brand recognition of RHU in Uganda as a known and trusted name for young people's SRHR.

2. Create Personas

Who is our primary user? What do they do? Who do they trust? Where do they turn for information?

A persona turns "a young woman in Fort Portal" into "Rose." Rose is 17 years old and attends secondary school. She lives away from her parents and family at boarding school. She has a boyfriend who is 25 years old, and they have decided that the time is right to have sex. Rose wants information on how to prevent unwanted pregnancy, as she does not want to be forced to leave school, like other girls she knows.

3. Map the Journey

How do our users access our service? How do they interact with it? What expectations may they have from it?

We considered that *Ask RHU's* functionality at this stage would be limited to information on contraception and condoms, STIs and HIV and unwanted pregnancy. User journey will appear as follows:

Registration

RHU encourages users to use *Ask RHU* through peer outreach and youth-friendly clinics.

Onboarding

Users are greeted with personalised message confirming topics covered. All information is confidential.

Content Delivery

Users ask questions and receive accurate information instantly.

Referral

Users are encouraged to visit their nearest RHU clinic through their GPS location.

4. Design Conversation Flow

How may users ask questions? What different 'utterances' or questions address the same information?

"I want more information on condoms" and "How do you use a condom?" are different utterances but are asking for the same information. Overall, our product may address hundreds of utterances that provide information on 100 - 120 specific answers.

5. Content Gathering

What information are we giving in our responses? Where do we gather the information from?

To answer user questions, we gathered evidence-based content and guidance from RHU, the Ministry of Health, and other partners on reputable guidance, international statements and guidelines on SRHR information and services.

6. Launch a Minimum Viable Product (MVP)

Quick design phases to spend more time testing than developing the product.

In short "sprint" design phases, the product development team created an agile chatbot for preliminary test by the Co-Design workshop participants. Ongoing changes and upgrades were consistently made to address problems, challenges, inconsistency of information and refine functionality.

Next Steps

The next phase in building and developing our mHealth service, *Ask RHU*, will be the Field Test with 1,000 young people in Fort Portal. We will mobilise users through support from youth mobilisation efforts with YAM, and promotion and integration with the youth-friendly services. We aim to consider the following elements in our next phase:

1. Integration of user feedback and aspirations. As part of our user-centred design, all phases of our practical experiment involve the continuous improvement of the information service based on interactions with users. While we want to understand the patterns of usage and functionality for our users, we also want to understand the effect our information service has in their communities.

2. Test the reach of our service. Our information service requires smartphones and data connections, which we understand may still be out of reach for some. Because smartphone penetration and mobile connectivity is increasing at a rapid rate in Uganda, this may become less of an issue. However, we want to understand the usage and access particularly for young women and girls. We will also consider that language and literacy barriers may also present.

3. Evidence of the value of digital solutions. We aim to capture key metrics and data related to users and routine information provided. But we also want to understand the effect our information service has on the provision of youth-friendly services. We want to understand the uptake of referrals to youth-friendly clinic, as well as the effect on cost and quality of services.

4. Key elements to consider in relation to service sustainability. Through the next phases of our practical experiment, we will consider how to deliver sustainability of service. The majority of target users have low disposable income to pay for service, and considerations will need to be made to maintain free service to users. We will consider opportunities revenue through looking at income generation business models, as well as examine the ability of service delivery subsidising digital solutions in line with cost-effectiveness and reduction in operational costs.

Working in Partnership

Reproductive Health Uganda

- Local content expertise
- User experience convenor: Youth Action Movement (YAM), RHU Fort Portal service providers
- Testing implementation
- On-the ground monitoring of metrics.

SafeHands

- Global SRHR and mHealth technical expertise
- Partnership convening
- Project and funding management
- Monitoring and evaluation of key metrics and trends.

Say It Now

- Chat commerce & AI expertise
- Design of product functionality
- Product development
- Ongoing improvements based on user feedback.



¹ PMA2020 Uganda, Adolescents & Young Adults Health Brief 2018

² Internet, ICT, Broadband and Consumer e-Commerce in Uganda: 2017

³ Uganda and other African countries are adopting the use of mobile money – cashless transactions through mobile money transactions.