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# UBONGO KIDS QUIZ APP FIRE AFRICA GRANT

FINAL REPORT  
November 2017



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# TECHNICAL REPORT

## SYNTHESIS

This report summarizes the Ubongo Kids Quiz App project, funded through a generous grant from AFRINIC's FIRE Africa Program.

Through this project, Ubongo has developed an Android application for delivery of interactive math, science and other quiz content in Kiswahili and English for children in Africa, through a fun, localized and gamified learning app. We have also created an online repository of thousands of localized quiz questions, and an API, which will allow other applications to access this localized educational for their use and sharing. Lastly we have developed broadcast content to educate children about the internet and responsible internet use.

Extensive user research has been undertaken by the Ubongo team to understand East African children and parents' smartphone usage and attitude toward educational games, as well as market research to better understand demand and willingness to make small payments for supplementary educational services, as well as preferred modes of payment.

A human centered design approach was used to develop the app style, story and organization. Paper prototypes were created, followed by interactive prototypes, in order to refine the app's user interface and user experience.

The app then went into full development (in partnership with Kola Studios, a Ugandan app development company). An alpha version of the app was completed in June 2017. This alpha app was thoroughly tested with children and parents in Tanzania, then significant changes were made, in order to improve its usability and effectiveness. A beta version of the app was then developed, which was further tested and refined, with a final version of the app completed in October 2017.

Furthermore, a quiz question organization and delivery API (application program interface) was customized to provide the backend quiz management for the application, in partnership with edtech startup Shule Direct. This API now provides access to thousands of quiz questions organized for different subjects, topics and levels, in both English and Kiswahili.

Educational content was developed for delivery through the app, with bite-sized, curriculum mapped quiz questions created, tested and then loaded to the repository. The whole app has been designed to be infinitely expandable. The Shule Direct API provides an easy interface for Ubongo's team, other partners and even teachers to be able to create and organize additional quiz questions for the app, and for our graphics team to add new "journeys" and rewards to the

app interface, so that kids can continue to learn and grow with it, long after they've finished the initial content that we've already created and provided.

An additional (and previously unplanned) element of the project has been to develop a full TV episode about the Internet and to help children develop information literacy. FIRE Africa funds were not used for this part of the project, but we the idea and need for this content came from the market research done under the FIRE Africa Grant project, and we feel that this broadcast TV content is critical to laying the foundation for a successful launch of the application.

There remain two pending item from the project, which Ubongo will continue to work on until the end of the year, at our own expense. The first is integration with a mobile wallet, to facilitate paid purchases through the app, and the second is an official app launch, which is being planned around the Christmas holiday, in order to attract the most possible marketing and downloads.

We sincerely thank AFRINIC for its support through the FIRE Africa Grant program. We have included files for the completed app here, and look forward to continuing to share the journey of the Ubongo Kids app with you, as we officially launch it in 2017, and scale it up through 2018 and beyond.

## **BACKGROUND**

Ubongo's mission is to transform learning for the 440 million kids in Africa through localized edutainment on accessible technologies, opening the door to a future of digital learning. UBONGO is a social enterprise that creates engaging and locally relevant digital content for learners in Africa. We leverage the power of entertainment, the reach of mass media, and the connectivity provided by mobile devices to deliver high-quality learning to African families using accessibly technology. Our localized edutainment programs *Ubongo Kids* and *Akili and Me* are watched in over 6.4 million East African households weekly, with hundreds of thousands of them also connecting with us digitally for anytime, anywhere fun learning. In short, we entertain kids to learn and love learning.

Million kids from across East Africa tune in on TV each weekend to watch our math and science edu-cartoon, Ubongo Kids. The show currently broadcasts on network TV in Tanzania, Kenya, Uganda, Rwanda, South Africa and Ghana, as well as on digital TV, video-on-demand and web streaming around the world. Our research in schools has shown that children who watch Ubongo Kids show direct learning outcomes in math after watching even just a single episode... but digital education research has also shown that when children are quizzed on what they have learned, or asked to recall it, then deeper learning happens.

This project with support from the AFRINIC FIRE Africa Grant program aims to engage Ubongo Kids viewers in deeper learning, through an Android quiz application which complements the lessons taught through the Ubongo Kids TV series.

To fully understand the significance of this project, for Ubongo's growth, strategy and development, a more detailed background of the organization and our strategy is included here.

**BIG HAIRY AUDACIOUS GOAL:** Fun & transformative learning for every kid in Africa... and the world!

There is a Kiswahili saying, "Elimu ni ufunguo wa maisha." It means *education is the key that opens life*. We believe that if we can leverage media, technology and storytelling to bring engaging and relevant education to kids in Africa... then they can go on to change their own lives, communities, and the future.

HALF of the African population are kids & youth, and we believe that they have the potential to solve the continent's most intractable problems, from health to governance to poverty. But they need the education and inspiration to get there.

In order to do that, we create localized edutainment content & services to help kids in Africa learn and love learning. Our focus is on helping kids develop the following skills and competencies, which we believe will equip and empower them to change their lives and communities:

1. **Strong educational foundation: language, literacy, numeracy, cognitive function and "learning readiness"**. *These are the core competencies that form a foundation for further learning to happen. Without developing these skills, it's hard for kids to progress in school or informal learning. These skills are best developed during a critical window of early learning, with support in learners' mother tongue.*
2. **Relevant learning for 21st century problem solving: math, science, technology, engineering, art, creativity, digital literacy & critical thinking.** *We believe that these skills are critical for innovative problem solving from local to global levels, and for the next generation to flourish in a rapidly changing world. Kids need to develop deep interests, with an understanding of concepts, their relevance to their lives, and how to apply what they've learned (as opposed to memorizing facts and formulas). While developing these skills, kids are also "learning to learn" and equipping themselves to learn whatever else they might need for the future.*
3. **Mindset and character strengths: purpose, growth mindset, empathy, self-efficacy, grit, citizenship & love of learning.** *Developing these non-cognitive skills readies kids to be self-directed learners, problem solvers and citizens, and research has shown that these strengths have even more of an impact on academic and life success than IQ.*

In summary, if we can get kids ready to learn, help them learn how to learn, and inspire them to find their reasons to learn... then we believe that they can take it from there. We're developing

research-based, engaging edutainment that is effective in developing these skills, and we're making it fun enough so that kids and families will *pull* learning.

We leverage the power of entertainment, the reach of mass media, and the connectivity provided by mobile devices to deliver this learning to African families at massive scale and low cost.

We see three core levers for achieving the kind of learning outlined above at scale: motivation, access and ecosystem.

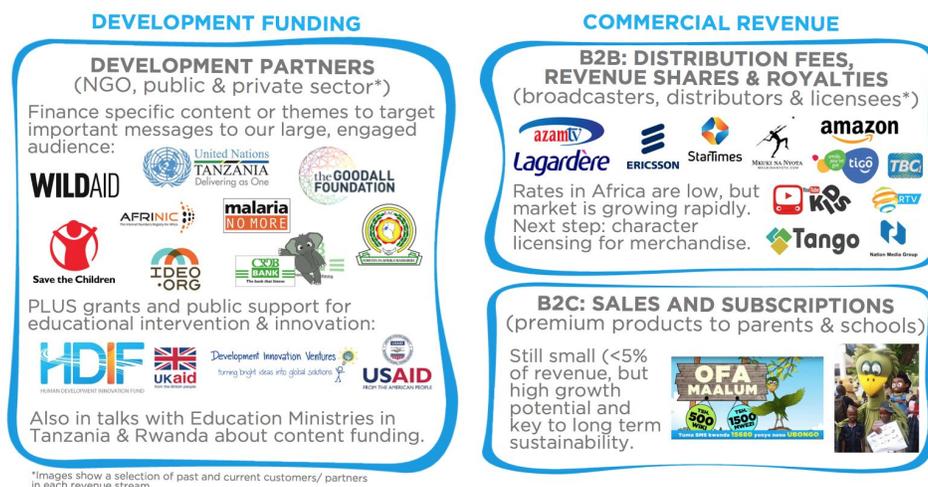
1. **Motivation: What if kids thought learning was fun?** *We use a user-centric, research-based process to develop locally relevant, engaging and super-sticky story based educational media that kids love to use again and again.*
2. **Access: What if families across Africa could access locally relevant learning resources on affordable and accessible technologies?** *We deliver our fun learning content across platforms including radio, TV, SMS and smartphones, and we adapt it to local context and languages.*
3. **Ecosystem: What if parents, schools and communities were empowered with resources and guidance to create a supportive ecosystem for holistic learning?** *We provide resources for caregivers, schools, communities and partners to support kids' learning and development.*

We know that in order to achieve these, we need to find a sustainable business model to not only maintain, but also grow our impact across Africa. Ubongo currently generates revenue from a variety of sources, as detailed below:

1. **Development Partners (donors, foundations, NGO's) - short to mid term**
  - a. Through Grants: Direct grants and sub-grants to Ubongo to achieve broad organizational goals or smaller projects and sub-goals (*currently: reach to the rural areas, development of ECD content, adaptation to new languages*)
  - b. Through Sponsorship and Co-Production (structured as commercial contracts or grants): Organizations pay us to use our platform(s) to reach kids and families with specific messages or learning (*currently: producing elephant conservation videos, promoting a youth reporting SMS platform through PSA's on our show, weaving character development into 4 storylines*)
2. **Distributors and Partners (TV stations, streaming platforms, publishers, merchandisers) - short to long term**
  - a. Distribution Fees: Pay-TV stations, streaming services and education providers pay for broadcast/ distribution rights to content (*currently: Star Times, Gulli, Nuvu TV, etc. pay yearly distribution fees for each episode*)

- b. Revenue Share: Free-to-air TV stations, AVOD/SVOD platforms, app/ eBook/ eContent subscription services pay us a revenue share from advertising or subscription fees (*currently: ad revenue from TBC, YouTube and Deezer, subscription revenue from Swahiliwood and Tango TV*)
  - c. Royalties: Publishers, manufacturers, and partners pay royalties for products sold with our writing, stories, characters or brand. (*currently: Mkuki na Nyota publish books and pay 12% royalty on net sales*)
- 3. Families (premium users in Africa and diaspora) - mid to long term**
- a. Subscriptions: Customers pay monthly to access premium Ubongo products (*currently: Ubongo Mobile SMS; next: Akili Portal App, Ubongo Kids Quiz App*)
  - b. Sales: Customers purchase content and products (*currently: music albums on iTunes, DVDs & T-Shirts sold from office, next: paid apps*)

## HYBRID BUSINESS MODEL



This project is extremely significant for our long term growth, as it has allowed us to create our first premium and monetized B2C (business to customer) product for our third revenue stream of African families. As indicated above, we believe that this revenue stream will be critical for Ubongo's long term growth and sustainability.

The Ubongo Kids Quiz App is allowing us to test and refine our approach to B2C monetization, and we've already had some critical learnings from it which have impacted the way that we approach premium product development and marketing. Those are outlined in the rest of the report, along with full details of our implementation process and results.

## OBJECTIVES

The main objective of the project was to develop an Ubongo Kids branded Android application for anytime, anywhere, math and STEM, and to reach more than 22,000 children with this application.

We have achieved the objective of creating the Ubongo Kids Quiz App (an apk file of which is provided with this report), and we believe we are on course to reach 22,000 children with it by January 2018 by doing a large scale app launch over the year end holiday season.

The secondary objectives of the project were to:

- Allow other technology companies and education projects to access an extensive library of Ubongo Kids learning quizzes through an API (Application Program Interface) and deliver this content through their own platforms.
- Gain a better understanding of the market for educational applications for children and families in East African.

We have completed the API and are in talks with partners about integrating content into their platforms, and we have certainly gained a much stronger understanding of the market for educational applications for children and families in East Africa. We gained very valuable insights into the potential for mobile learning, and a much stronger understanding of the technical and social barriers to scaling mobile learning for children in East Africa.

Additionally, our market research for this project highlighted the need for this additional learning to prepare children and families to use our app, so we produced and broadcast a full episode of Ubongo Kids about the internet, and how to judge the reliability of online information. This episode has successfully broadcast to over a million households in Tanzania and Kenya in Kiswahili and English, and has inspired a project plan to scale up content about digital and information literacy for children in Africa.

*NOTE: FIRE Africa funds were not sufficient to fund the whole episode production, however the research suggested that it was necessary. The cost of production of a full episode is about \$18,000, however only \$2,800 of the FIRE Africa grant was allocated for video content production to teach about the internet and app use. Hence, this money was used to fund about 15.5% of episode production costs, and Ubongo used its own funds to provide the rest of the production costs in-kind.*

The four main activities and status of them at end of project are as follows:

**ACTIVITY 1** - Expand our library of quiz questions to include lessons and tutorials covering math and science topics for classes 2-5 in both Kiswahili and English.

We have developed a library of quiz questions for math and science, adding hundreds more questions for children to ensure that we cover topics for the full range of students in classes 2-5, as well as organizing questions through leveling so that students can progress from easier to harder content within their age range.

**ACTIVITY 2** - Build an API (application program interface) to allow other mobile learning partners including Eneza Education and Shule Direct to directly pull quiz questions to their platforms.

The application programmable interface (API) is complete. It allows us, partners and teachers to easily create and add new content, which can be approved online and then added directly into the app. It will also provide other partners with access to our library of content, and we have already approached education technology partners (such as Eneza education in Kenya) as well as mobile networks about partnering to delivering our content via their platforms.

**ACTIVITY 3** - Build an Android game which delivers the same quiz questions in through a series of fun games starring our cartoon characters.

The Android App has been built, and we are incredibly proud of the outcome. By using a Human Centered Design approach, we have been able to create a kid-centric, easy, fun and ever expanding app that captivates kids across a range of ages. They embark on different “journeys” with their favorite cartoon characters, answer quiz questions in order to progress and get to the end of the journey, and then on to the next.

**ACTIVITY 4** - Test marketing and growth strategy for educational app in East Africa (added thanks to scale up funding)

We have developed a marketing strategy for this app, however as part of that strategy we have concluded that it will be best to launch it over the holidays, when we’re able to host events to promote the app to a large number of families, in addition to advertising on our TV and radio programs.

#### **ADDITIONAL ACTIVITIES:**

After our market research we did for this project with children and parents, we saw a need for stronger education about the internet and general information literacy. Parents were very worried about the idea of their children using smartphones to access the internet, even via educational apps.

In response to this, we decided that in addition to building our app, we needed to develop a full Ubongo Kids episode about the internet and information literacy.

## RESEARCH PROBLEM & FINDINGS

MAIN RESEARCH QUESTION: How can we leverage mobile technology to create scalable solutions that deeply engage kids in East Africa in anytime, anywhere learning?

Through the course of this project we have extensively explored this question from a number of angles. We have looked into what mobile platforms and technologies are most appropriate for the delivery of effective and engaging edutainment content for children in Africa. We have explored different approaches to gamification and engagement. And we have also done extensive market research to determine the best approaches to marketing and monetizing mobile learning solutions for sustainability.

**Mobile technology and mobile internet access is growing rapidly in East Africa, and it presents an excellent opportunity for delivering family learning content. But we have found from our research that an increase in access to technology and connectivity for African families is not enough to enable mobile learning for children at scale. One of the key learnings from this project was that many of the barriers to mobile learning for children in East Africa are social, as opposed to technical.**

Parents are hesitant about their children using internet connected devices. They are unwilling to purchase devices for their own children, not only for cost reasons, but also because they do not feel their children can responsibly use the internet and they fear that they will use devices to connect and chat inappropriately.

Thus, most children must access mobile learning content through parents' devices, and parents are only willing to give them children devices for a short period of time. They will often ask for the device back soon after the child has begun learning. These learnings strongly informed the design of our Ubongo Kids App, and also led us to create complementary video content to lay the groundwork for responsible internet and smartphone use.

We have determined that in order to leverage mobile technology to create scalable solutions that deeply engage kids in East Africa in anytime, anywhere learning, we must:

1. Gain a deep level of trust from parents by:
  - a. Leveraging the trust value of our existing edutainment content as a "stamp of approval" for the quality of our mobile learning services.
  - b. Teaching children information and digital literacy skills, so that parents feel their children can safely use mobile devices.
  - c. Making apps clearly educational with gamification, as opposed to games with educational value.
2. Optimize for the use case of children accessing content on parents' phones and tablets for short bursts of learning by:

- a. Having an endless game structure which children can dip in and out of learning at their own pace, and dependent when (and for how long) they can access devices.
  - b. Creating short, modular steps, each with it's own reward, so that even if children can only play for a few minutes, they are able to achieve a small step of progress and are incentivized to return for the next.
  - c. Add multiple child accounts to the app, so that families with multiple children can have each child use the app on the same found, and each can save his or her own progress.
3. Engage in deep marketing and customer education beyond simple app promotion by:
- a. Launching products around key periods where children and parents will be spending time together, which allows for more chances to download and use the applications. This will hopefully give families time to become fully "bought in" to the benefits of using the app, and establish a usage pattern that can continue on during term time.
  - b. Planning in-person events wherein parents and children can come to use and try out the apps, as well as providing wifi for families to download the apps directly on their phones. We tested this at the Saba Saba trade fair, and are now planning a full launch event for the Christmas Holiday 2017.

This learning has been invaluable and contributed to changes in Ubongo's long term organizational strategy. We will now invest more time and effort into helping families develop digital and information literacy skills, as a foundation for mobile and eLearning. We will also place increased emphasis on experiential and in-person marketing, to increase customer engagement and buy-in of early adopters for our mobile learning products.

*QUESTION: Will children who watch and learn from Ubongo Kids engage more with a quiz based learning app that is: "a game app that involves answering quiz question" or "a quiz app that is gamified"? {From interim report}*

To answer this question, we tested two different styles of quiz app with children, utilizing existing apps and if needed, replacing quiz questions with our own.

Game with Quiz Questions:

We tested a runner game where the main focus of the game was keeping a character "alive" while running and jumping over obstacles and collecting points. Occasionally the user needed to answer a multiple choice quiz question in order to proceed with the running and earn points. We found that during this game, kids enjoyed the runner game play, however they treated the quiz questions as an annoyance that came up, preventing them from continuing with the game. Often they would just randomly click an answer without even reading the question, hoping to get it right and get back to the runner game. This suggested that though the gameplay was

enjoyable for the children, the style in which the quiz questions were integrated did not motivate them to learn.

Though quite engaging at first, the runner game became quite repetitive, especially for older children. This suggested that they would be unlikely to return to the game week after week to keep learning.

Zizi the Zebra App (example of game app with quiz questions):

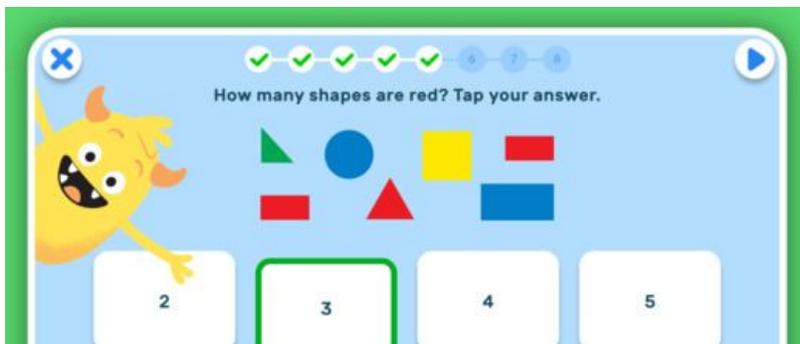


Gamified Quiz App:

In contrast to the above game style where kids were playing a game and needed to answer quiz questions to progress, we tested a number of different apps which were focused around educational quizzes, but framed these into a story or were gamified so that users could earn points and progress through levels.

Though not as immediately fun as the runner game, these apps placed progression through the learning as the core motivation, and users were much more focused on reading and answering the questions.

Go Math! Go! App (example of children's gamified quiz app):



From this research, we found that games and gamifications can be strong motivators for children to engage in self-directed learning through an educational app, however in order to

encourage learning, the educational elements need to be contributors to a user's progression through the app, as opposed to obstacle or impediments to get out of the way to reach other elements of gameplay.

As such, we went on to design the app as an ongoing educational "journey" with different mini-journeys along the way. The educational quizzes are front and center, and the gamefication is used to incentivize usage (but at the core, the app is not a game). {See *project design and implementation section for details*}.

QUESTION: What is the strongest value proposition to parents to download an Ubongo Kids app for their children?

We conducted a series of parent interviews to better understand their use of smartphones and apps, interest in an Ubongo Kids app, and their preferences for payment models. For the full questionnaire please see *Appendix 2: Interview Questionnaires*.

Key learnings from the parent interviews were:

1. Parents with smartphones are very hesitant about giving their children internet access. They would prefer that an app could be downloaded and played offline. This is both for child protection (they are unsure of what their children may find on the internet) as well as for financial reasons (some parents stated that children will use up their whole data bundle, and one even had a specific data allowance for their daughters each month).
2. Parents are very trusting of the Ubongo brand. They associate it with education, and even those who wouldn't normally let their children play mobile games say they would let them play an Ubongo Kids game, since they know that it will have educational value. Parents were much less interested in the "fun" element of the games than the educational value.
3. Parents would prefer a one-time payment for a set of content to a subscription, even if they must pay a higher rate up front.
4. Parents want to be able to keep content even after the child using it ages out of that content, since they will have younger siblings who need to learn the same thing.

In response to these findings, we have developed an app that is strongly educational, as well as a marketing strategy to highlight the educational value of the app. We have also developed ancillary content to promote responsible internet use, including a full episode of Ubongo Kids about the internet and information literacy.

QUESTION: What is the strongest value proposition to kids to play the Ubongo Kids app?

We conducted a series of interviews with children to better understand their use of smartphones and apps, and interest in an Ubongo Kids app. For the full questionnaire please see *Appendix 2: Interview Questionnaires*.

Key learnings from the kid interviews were:

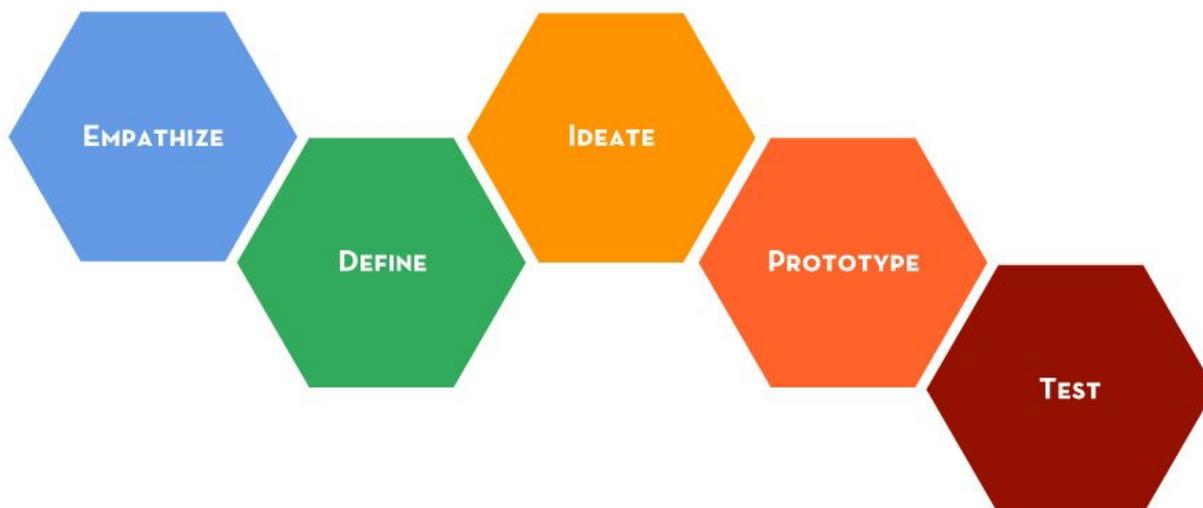
1. Kids feel a strong connection to the Ubongo Kids characters and would want to be able to see them in the app.
2. Common games played among kids interviewed were Temple Run and Subway Surfers. Most had never played an educational game.
3. Kids who had used phones before were very vocal with their criticism of tested apps-- indicating that further user testing throughout app development should yield interesting feedback for app improvement.
4. Kids want to feel that they are continuously challenged and progressing with the app or game.
5. A very wide age range of kids interested to use Ubongo Kids app, from age 7 up through teenagers. As such, the app will need to be able to start different users at different learning levels, according to their age.

In response to these results, we have designed the app with the characters at the core. Users answer quiz questions in order to help the characters collect different items they need to solve a problem. For instance, Uncle T wants to start a band, and the user must help him. For each 15 questions they answer correctly, they win a different instrument for Uncle T's band. Once he's gotten all of the instruments, the journey is completed, and the users move on to another journey... say helping Ngedere get back to Earth from space by collecting different contraptions.

The benefit of this journey structure is that it is not tied to the topics or content, and children of all different ages and levels can go through the journey, but with quiz questions that are adapted to suit their own abilities.

## PROJECT DESIGN AND IMPLEMENTATION

The project was designed through a Human Centered Design project, with children and parents central to guiding the design process.



Human Centered Design (HCD) follow five main steps, which are done multiple times in a cycle, in order to develop user-centric products that truly solve users problems and meet their needs.

1. Empathize - We began with extensive user research, interviewing children and parents about their educational priorities, access to technology and interests in mLearning.
2. Define - To define the problem, we collected the feedback from children and parents, and set clear parameters for what the app should achieve *{as detailed in the Research Findings section}*. We also define what content would need to be delivered through the app, and did a card sorting exercise to explore different ways of organizing and presenting ideas to our users.
3. Ideate - We brainstormed different ideas for the app, exploring apps already in existence and different design possibilities. We drafted different storylines and user journeys.
4. Prototype - We first used existing apps as prototypes to test what style of app children best preferred to play with. We then created paper prototypes to test the user experience, and then finally built a fully functional prototype in Adobe XD.
5. Test - These prototypes were each tested extensively with children for usability. Once a final high definition prototype was completed, that was handed over to our app development partners for a first round of development, after which more testing was performed, and the app was further improved.

The Human Centered Design process spanned across project activities. And update on the results of each activity is included below.

**Activity 1. Expand our library of quiz questions to include lessons and tutorials covering all math and science topics for classes 2-5 in both Kiswahili and English.**

Math and science quiz content has been developed in both Kiswahili and English. The quizzes have been reorganized into age groups (instead of classes) in order to make content more relevant for children across East Africa, rather than for one particular country. This was in response to research results from user interview with children and parents.

Within each age group, the content is organized in levels starting with easy, medium and hard questions, to allow users to develop competency step-by-step.

This organization of content will allow us to build learning pathways for learners to move through the content in a self-paced, competency based learning model, which has been shown to be highly effective through programs such as Khan Academy, especially for non-formal learning settings.

**Sample questions formatted for delivery via quiz API to app or SMS:**

Question Content ENGLISH	Question Content LOCAL	Character Count English	SMS Answer 1 ENGLISH	SMS Answer 1 LOCAL	SMS Answer 2 ENGLISH	SMS Answer 2 LOCAL	SMS Answer 3 ENGLISH	SMS Answer 3 LOCAL	Correct answer	Explanation ENGLISH	Explanation LOCAL
You record fruit on a bar graph and there are 3 mangoes, 8 bananas, and 6 oranges. Which fruit do you have the most of?	Umerekodi matunda kwenye grafu na kuna maembe 3, ndizi 8 na machungwa 6. Je, ni matunda gani unayo kwa wingi?	148	mangos	maembe	bananas	ndizi	oranges	machungwa	2	There are 8 bananas and this is the more than the other fruits.	Kuna jumla ya ndizi 8, na hizo ndio ni zaidi ya matunda mengine.
You record utensils on a bar graph. There are 10 spoons, 5 forks, and 9 knives. What utensil do you have the least of?	Umerekodi vyombo vya nyumbani kwenye grafu ya mhimili. Kuna vijiko 10, uma 5, na visu 9. Je, ni vyombo gani vyenye idadi ndogo zaidi?	146	spoons	vijiko	forks	uma	knives	visu	2	There are 5 forks and this is less than the other utensils.	Kuna uma 5 na ndio vichache kuliko vingine vyote.
You record fruit on a bar graph and there are 12 mangoes, 3 bananas, and 9 oranges. Which fruit do you have the most of?	Umerekodi matunda kwenye grafu ya mhimili na kulikuwa na maembe 12, ndizi 3, na machungwa 9. Je, ni tunda gani unayo kwa wingi?	149	mangos	maembe	bananas	ndizi	oranges	machungwa	1	There are 12 mangoes and this is more than the other fruit.	Kuna maembe 12 na ndio mengi zaidi matunda mengine zaidi.
True or false: a pictograph uses symbols or images to represent data.	Kweli au si kweli: grafu ya picha hutumia alama au picha kuwakilisha taarifa.	96	True mangos	Kweli maembe	False bananas	Si kweli ndizi	No answer pineapple	Hakuna jibu nanasi	1	True, a pictograph uses pictures to represent data on a graph.	Kweli, grafu picha hutumia picha kuwa taarifa kwenye grafu.
Koba records fruit on a bar graph and there are 4 mangoes, 8 bananas, and 2 pineapples. Which fruit does he have the most of?	Koba amerekodi matunda kwenye grafu, maembe yalikuwa 4, ndizi 8 na mananasi 2. Je, Koba alikuwa na matunda gani kwa wingi?	156							2	There are 8 bananas and this is more than the other fruit.	Kuna ndizi 8, na ndio zipo nyingi kuli matunda mengine.
Students graph their favourite animal and there are 10 dogs, 7 lions, and 11 horses. What is the most popular animal?	Wanafunzi walichora grafu ya wanyama wawapendao na kulikuwa na mbwa 10, simba 7, na farasi 11. Je, ni mnyama gani aliyependwa zaidi?	139	dog	mbwa	lion	simba	horse	farasi	3	Eleven students said the horse was their favourite and this is more than the other animals.	Wanafunzi 11 walisema farasi ndio mwampendaye zaidi, zaidi kuliko wanywengine.
You record vegetables on a pictograph and there are 4 pumpkins, 7 potatoes, and 10 onions. Which vegetable do you have the least of?	Umerekodi mbogamboga kwenye grafu ya picha na kuna maboga 4, viazi 7, na vitungu 10. Je, ni mbogamboga gani ambazo ni chache zaidi?	160	pumpkin	boga	potato	kiazi	onion	kitunguu	1	There are 4 pumpkins and this is less than the other vegetables.	Kuna maboga 4 na ndio machache kul ya mbogamboga nyingine
True or false: a bar graph and a pictograph can both be used to show the same type of data on a graph.	Kweli au si kweli: grafu muhimili na grafu picha zote luteza kutamika kuonesha taarifa za aina moja kwenye grafu?	129	True	Kweli	False	Si kweli	No answer	Hakuna jibu	1	True, a bar graph and pictograph look a little different, but can be used to show the same type of data.	Kweli, grafu ya muhimili na grafu picha muonekano wake hutofautiana kidogo luteza kutamika kuonyesha taarifa zinazofanana.
Kibena sees 4 black, 3 blue, 2 yellow, and 5 red birds and puts this data on a graph. Which colour of bird is the most common?	Kibena aliona ndege 4 weusi, 3 bluu, 2 njano, na 5 wekundu, na aliweka taarifa hizo kwenye grafu. Je, ndege wa rangi ipi walikuwa wengi?	148	black	nyeuasi	blue	bluu	red	nyekundu	3	There are 5 red birds, more than any other colour, so this is the most common.	Kuna ndege 5 wekundu, ambao ni wengi kuliko ndege wa rangi nyingine.
In 2011, a school had 100 students. In 2012, it had 110 students and in 2013, 100 students. How many students attended from 2012 to 2013?	Mwaka 2011 shule ilikuwa na wanafunzi 100, 2012 wanafunzi 110, na 2013 walikuwa 100. Je, ni wanafunzi wangapi walikuwepo kati ya mwaka 2012 na 2013?	156	100	100	110	110	210	210	2	You must add the number of students from 2012 and 2013 together. 110+100 = 210 students.	Yakapaswa kujumlisha namba ya idadi wanafunzi kuanzia 2012 mpaka 2013 pamoja. 110 + 100 = wanafunzi 210.
After school, 20 students play football, 10 play basketball, and 40 go home. How many students play sports after school?	Baada ya masomo, wanafunzi 20 walicheza mpira, 10 mpira wa kikapu, na 40 walirudi nyumbani. Je, wanafunzi wangapi huchera michezo baada ya masomo?	136	20	20	30	30	40	40	2	You must add the number of students who play football and basketball. 20+10 = 30 students.	Anza kwa kujumlisha idadi ya wanafunzi walicheza mpira wa miguu na mpira kikapu. 20 + 10 = wanafunzi 30.
Leo Baraka amekula chapati 2, maembe 2, ndizi 2, na machungwa 6. Je, ni chaji gani aliyependwa zaidi?	Leo Baraka amekula chapati 2, maembe 2, ndizi 2, na machungwa 6. Je, ni chaji gani aliyependwa zaidi?	148	chapati	maembe	ndizi	machungwa			1	There are 6 machungwa and this is more than the other fruits.	Kuna machungwa 6 na hizo ni chaji zaidi aliyependwa zaidi.

The content is now organized online and stored in our repository, hosted on Google Cloud.

A much simpler process has now been created for adding additional quiz questions through an online user interface (rather than via spreadsheets as shown above). This is detailed in the section below on the API.

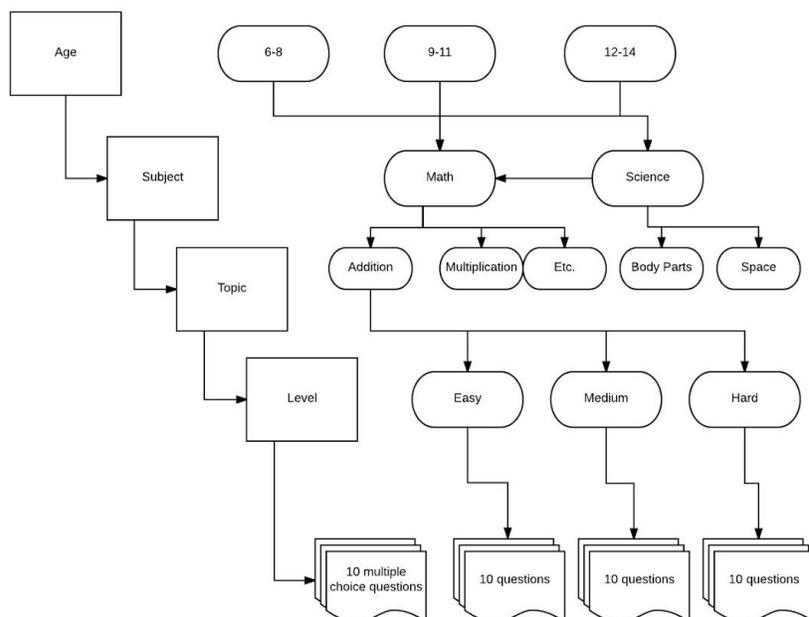
**2. Build an API (application program interface) to allow other mobile learning partners including Eneza Education and Shule Direct to directly pull quiz questions to their platforms.**

For the API development, we partnered with [Shule Direct](#), a Tanzanian edtech company who have created an online learning portal and SMS quiz system for Secondary School students, to customize their Quiz API for use with primary school content. This has allowed us to build upon their existing technology and get more out of our small budget to add additional functionalities.

The quiz API has been developed by Shule Direct, in consultation with the Ubongo team, with customized elements for Ubongo's needs. Customized functionalities built specifically for the Ubongo Kids Quiz API and App are:

1. Alternative "question tree" hierarchy for organizing topics into Age Group, Subject, Topic and Difficulty Level. {complete}
2. Content tagging so that quizzes can have additional metadata, and which can also be used to link quizzes to specific Ubongo Kids video and book content. {in development}
3. Multi-language quiz content support. {in development}

### Ubongo Kids Quiz question tree



While the initial Ubongo Kids questions were scraped for storage in the repository, continuous question development is now being done directly through the Ubongo Kids version of the Shule Direct Quiz API, with a customized interface where contributors can write questions, and administrative permissions to allow those questions to be edited and approved before publication to the app.

### Question Input Interface

Hide Answers Show Answers

Medium **Multiple Choice**

It is 3:45. What time will it be in 15 minutes?

A 3:15  
B 4:45  
C 4:00

SMS Question Message  
71/170  
1 message

It is 3:45. What time will it be in 15 minutes? (A)3:15 (B)4:45 (C)4:00

---

Easy **Multiple Choice**

How many minutes are in one hour?

A 100  
B 60  
C 30

SMS Question Message  
52/170  
1 message

How many minutes are in one hour? (A)100 (B)60 (C)30

### Quiz Feedback Versioning for SMS vs Android

Hide Answers Show Answers

Medium **Multiple Choice**

It is 3:45. What time will it be in 15 minutes?

A 3:15  
B 4:45  
C 4:00

It will be 4:00 because 3:45 plus 15 minutes = 4:00 because 45 + 15 = 60 which is an hour so you add it to 3 to get 4:00.

SMS Question Message  
71/170  
1 message

Correct Answer Message  
130/170  
1 message

Correct! It will be 4:00 because 3:45 plus 15 minutes = 4:00 because 45 + 15 = 60 which is an hour so you add it to 3 to get 4:00.

Incorrect Answer Message  
132/170  
1 message

Incorrect. It will be 4:00 because 3:45 plus 15 minutes = 4:00 because 45 + 15 = 60 which is an hour so you add it to 3 to get 4:00.

---

Easy **Multiple Choice**

How many minutes are in one hour?

Initially, Ubongo utilized Shule Direct's own repository for hosting, but in September 2017, after alpha and beta testing was completed, a dedicated repository was built for hosting the Ubongo Kids Quiz Content. That is now hosted in Google Cloud, and it provides the backend content storage and delivery for the Ubongo Kids Quiz App.

There are different levels of login for the Ubongo Kids Quiz Repository, for teachers to write content, reviewers to review and suggest improvements to content, and for administrators to accept changes to the content and then publish them to the app.

Once changes and new content is published, when users connect their devices to the internet they will be able to download the new content from the repository.

3. Build an Android game which delivers the same quiz questions in through a series of fun games starring our cartoon characters.

The Android game has been completed after numerous rounds of focus groups, prototyping, user testing and development. [For details see Appendix A: User Research]

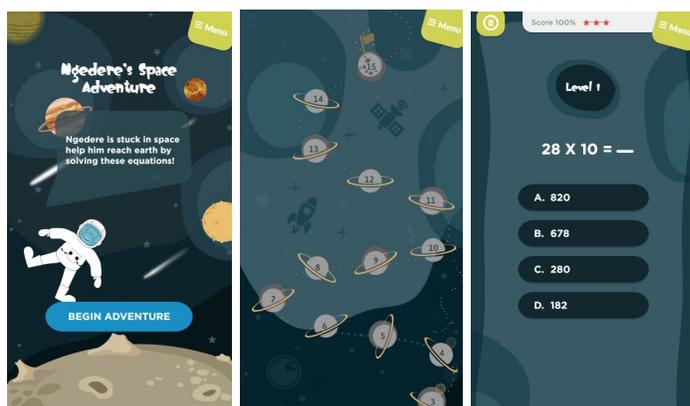
After formative research, Ubongo contracted Tanzanian UI/UX designer Lillian Mushi to work together with the Ubongo Team to design the front end of the app, and Ugandan app development company Kola Studios to do the app development.

Lillian has worked closely with the Ubongo Team on app design. After interviews with Ubongo Kids viewers, the Ubongo writing team wrote 7 different storylines as potential “game stories” which Lillian then tested with groups of children to identify which were most appealing. There were strong preferences for stories featuring a key Ubongo Kids character, and asking the user to help them with a challenge (for instance, Mama Ndege is looking for her chicks, and the user needs to help her find them).

A user journey was designed, which would allow users to move through the app from story to story, helping a different character solve a challenge in each story.

Lillian then worked with the Ubongo graphics team to design a series of test screens to illustrate each character story.

*Ngedere’s Space Adventure intro screen, journey screen and quiz screen:*



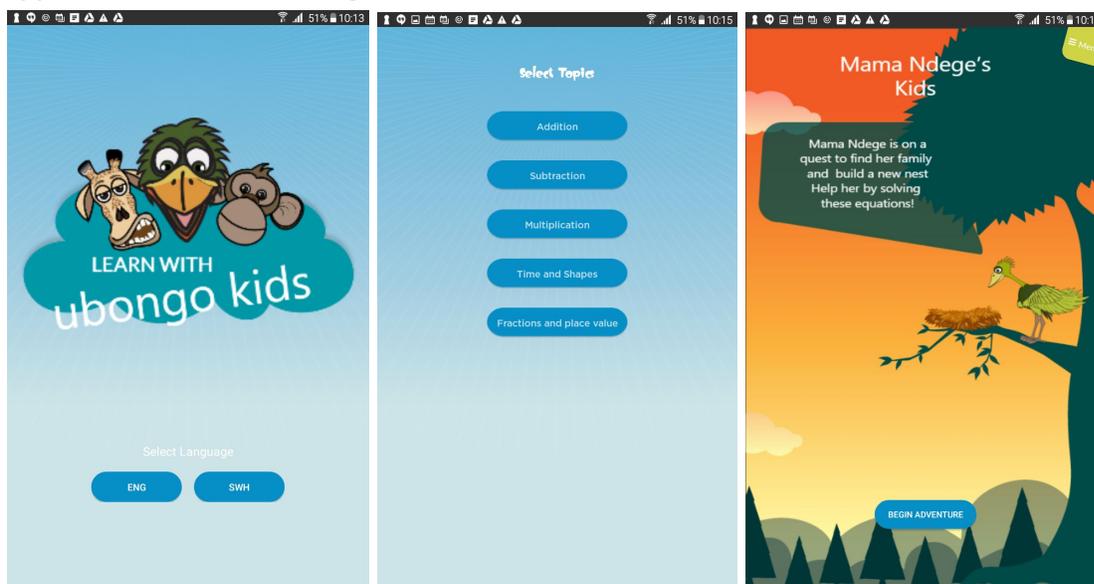
Next an interactive wireframe was created using Adobe XD, to mimic the app functionality, and sent to Kola Studio to begin coding. {For more details see Appendix A}

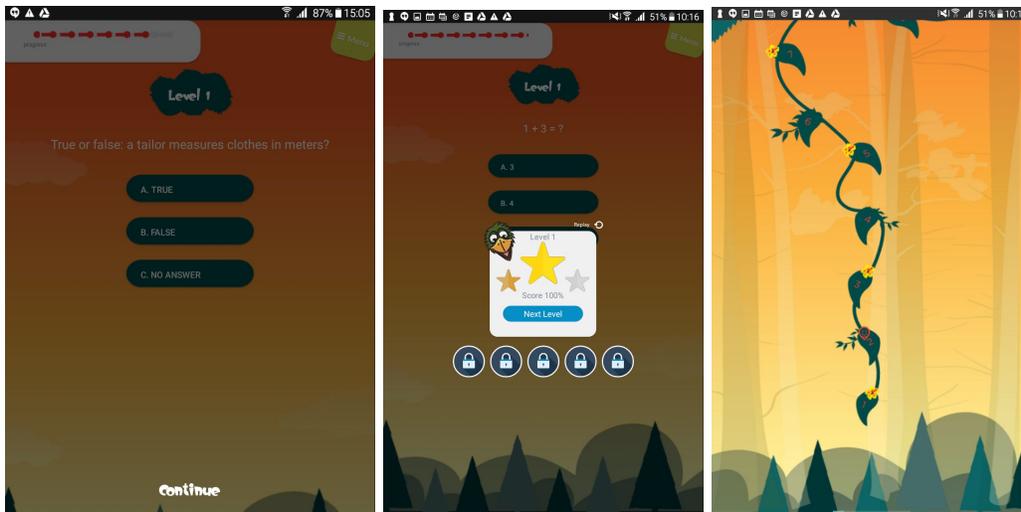
To develop the Ubongo Kids quiz app we worked with Kola Studios; one of Uganda's leading mobile game development companies. This was a very integrated process, where Ubongo and Kola Studios closely worked together on the different rounds of coding to ensure we were creating a quality app that was fun and educational for children in Africa and continuously work on the usability and effectiveness of the app.

Throughout the entire process we user tested the app with children as well as parents, getting continuous feedback on the way the app was working, the content and delivery of questions and whether it was user friendly for children of different age groups to be using. We used the feedback to continuously feed into the app. During our most recent user testing with kids using the app, the kids truly enjoyed the arrangement of the questions and having the option to pick the topic they wanted to be tested on in comparison to other educational apps. They also appreciated that the app was available in both English and Swahili. We noticed the kids would quit out of the app if they found a question too difficult in order to start again, so we are adding a new body of lower level quiz questions, via the repository and API.

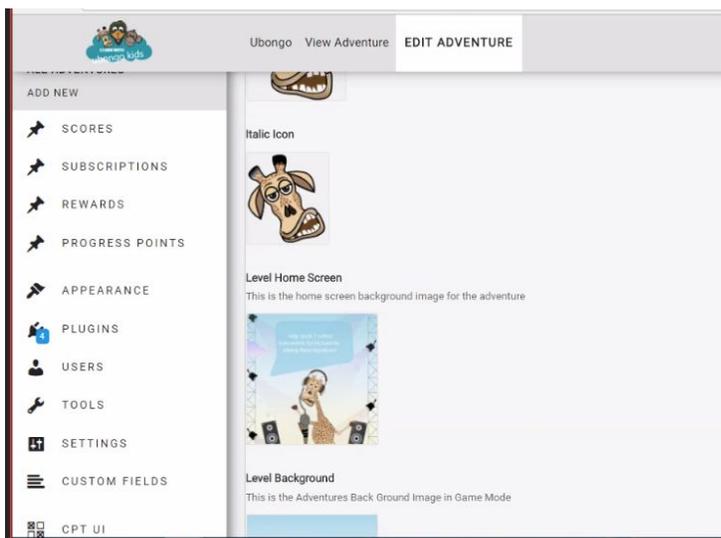
As a way to create a sustainable app and be able to indefinitely transform the app, Kola Studios has also created a user friendly dashboard for the admin panel to add and/or edit user journeys, app sounds and rewards.

#### *App User Interface Screenshots:*





App Update Dashboard: (admins can add new journeys and graphics via the dashboard):



#### 4. Test and refine marketing and growth strategy for an educational app in East Africa.

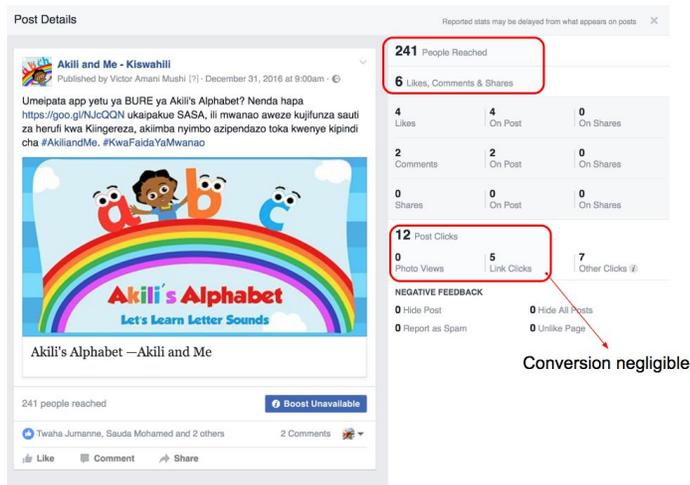
As this FIRE Africa Grant was converted to a “scale up” grant, we have also undertaken to test and refine an app marketing and growth strategy.

In order to learn about the market and test our strategy, we released a mini game app titled [Akili's Alphabet](#) in December 2016 and followed it up with a Kiswahili version of the same app called [Herufi na Akili](#) in January 2017. These were released as free apps, with a staggered marketing strategy to test the effectiveness of different platforms for getting parents in Tanzania and Kenya to download.

In Tanzania, the app was promoted on social media, traditional media and TV, whereas in Kenya it was promoted only through social media. Targeted Facebook ads were created to target specific customer segments in both countries.

As shown in the image below, Facebook posts promoting apps had very low conversion rates, even if they had high reach and engagement.

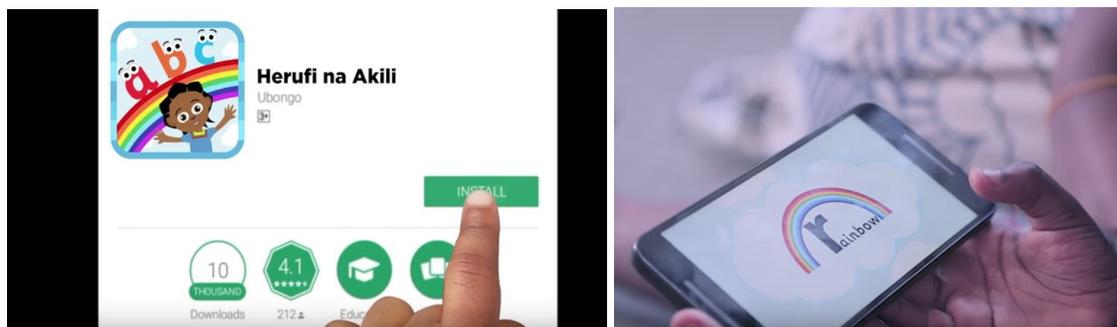
### Sample Facebook Promotion:



On the other hand, TV promotion led to a large number of searches and downloads, despite the fact that we were not able to provide a direct link to download in the same way as on Facebook. TV based advertising was especially effective when it showed users step-by-step how to download and use the app.

You can watch one of the TV adverts at this link: <https://youtu.be/LPH9h5kxSY4>

### Stills for TV advert aimed at increasing app downloads:



The TV advertising in Tanzania had a clear impact on app downloads, and will be employed for the launch of the Ubongo Kids Quiz App.

Currently our broadcast partner in Kenya, Citizen TV, does not allow promotion of other products through our TV programming, so we are working on an alternative promotion strategy in Kenya through partnerships with other organizations.

In addition to testing launch and traction strategy, we also engaged in extensive market research to determine what monetization model to use for the Ubongo Kids Quiz app. The following table outlines the pros and cons of each model explored.

Freemium/Subscription		Up-Front		In-App Purchases	
Pros	Cons	Pros	Cons	Pros	Cons
<ul style="list-style-type: none"> <li>• Having free version gives more people access and therefore increases exposure</li> <li>• Captures customers on recurring basis</li> <li>• Allows customers to trial the product</li> <li>• Give them opportunity to stream rather than dwnl onto phone</li> <li>• Allows us to gather data on these engaged customers</li> <li>• Can allow for downloads (like Spotify)</li> </ul>	<ul style="list-style-type: none"> <li>• Payment via mobile money may run into failure rates</li> <li>• May require frequent upload of new content to satisfy subscription</li> <li>• Level of familiarity with subscription/freemium may not be as high in TZ?</li> <li>• If stream the continued data costs may be large</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid billing failure. Higher purchase price may provide impetus to add mobile money to pay.</li> </ul>	<ul style="list-style-type: none"> <li>• Payment may act as barrier to entry - limit exposure</li> <li>• No trial of app available</li> <li>• Doesn't capture value when new content is released</li> </ul>	<ul style="list-style-type: none"> <li>• Having free version gives more people access and therefore increases exposure</li> <li>• Not a recurring purchase and therefore low likelihood of billing failure</li> <li>• No need for constant new content</li> <li>• Allows for trail via 'free' content</li> </ul>	<ul style="list-style-type: none"> <li>• Size of purchases may be too small to warrant purchases</li> <li>• Value proposition around offline access need to be tested.</li> <li>• Less stable flow of cash</li> <li>• Downloads may be limited by the space available on phone</li> <li>• Data costs involved with downloads</li> </ul>

In addition to this market research, Strategy Consultant Yichen Feng conducted a full assessment of current and potential product offerings, including the Ubongo Kids Quiz App. *{See Appendix D for B2C Product Assessment}*

After our market research, parent interviews and discussions with partners, we have determined that the Ubongo Kids Quiz should be initially billed under a freemium hybrid model that includes

a free download, then one-off payments via mobile money to purchase each subject of content (i.e. math, science, etc.). Users will be able to download the app for free and do a limited set of quiz questions. They will then make a single payment to unlock all maths content, and subsequent one time payments to unlock other subjects as they become available.

We also determined that it was important to launch the app during a period when parents and children would be spending a large amount of time together, to increase the likelihood that parents will have time to sit together with their children, download the application, register and pay... then leave their devices with the children to learn.

### **SMART Goal of Marketing Plan**

To communicate the launch of the *Ubongo Kids Quiz App* on Dec 23rd during the Christmas/holiday period. Marketing's primary objective is to increase awareness of the app amongst Ubongo Kids' fans and drive downloads in the Tanzania and Kenya markets.

### **Secondary Goals:**

- App should have 30,000 active installs after first week of launch
- App should reach the top 3 most popular kids app in Playstore for Tanzania and Kenya
- Marketing will gain insights on Tanzanian and Kenyan markets' responsiveness to freemium educational apps

### **Important Details**

The app will be free to download and users will get to play the math quiz for free but they will have to pay a small fee, TZS 3,000 to unlock other subject quizzes. The integrated payment system through 3G Direct, will be able to accept all major credit cards, PayPal, and the various mobile banking systems available in Tanzania eg Tigo Pesa, MPesa, which is one of the most common way Tanzanians use to pay for services, making the app more available

The full app marketing plan is provided in Appendix B: Marketing Plan.

### **Final Project Timeline:**

<b>Activity</b>	<b>Dates</b>	<b>Status</b>
Digital Manager hired & onboarded	Nov. 2016	COMPLETED - However instead of hiring single digital manager we engaged two contractors: a UI/UX designer and a digital media consultant, both of whom worked part time on the project.
Prototyping Training & Practice	Nov. 2016	COMPLETED
Grants Metric Tracking System put in place	Nov. - Jan. 2016	COMPLETED
Repository developed & beta	Jan. - Feb. 2016	COMPLETED

testing		
API Customization	{Jan. - Mar. 2016}	COMPLETED - API Customization is still underway by Shule Direct, however most core functionality is complete.
Additional Content Written and Tested	Jan. - Apr. 2017	COMPLETED - However another set of questions will be written in Q3 2017 after beta testing of app.
Paper Prototypes	Nov. 2016 - Jan. 2017	COMPLETED
Digital Prototyping and Wireframes	Dec. 2016 - Feb. 2017	COMPLETED
Android App Built	Jan. - Oct. 2017	COMPLETED - App developed by Kola Studios in Uganda, with design and support from Ubongo team in Tanzania.
User Testing of Content and App	Jan. - Oct. 2017	COMPLETED (through continued testing) - Continual user testing as we create content and new functionalities.
Closed Beta of App	Oct. - ongoing	Closed beta has begun and is ongoing until launch
App Release and Monetization	{Sept. 2017} <b>Updated dates: Dec. 2017</b>	App marketing plan is completed, but will be done
Market Research and Growth Hacking	Jul - Sept. 2017	Continuous-- we will continue with growth hacking post launch
SMS Service connection and launch	{Feb - Mar 2017} <b>Dependent on finding SMS partner.</b>	PENDING - waiting for contracts with MNO's and other partners to access quiz questions.  We HAVE managed to launch IVR services with Vodacom, however we are still looking for a partner for SMS content delivery.
Monitoring of SMS and App Usage	Feb. - Sep. 2017	First round COMPLETED. Second round PENDING partner launches.
Assessment Prep & Study Design	Jan. - Mar. 2017	COMPLETED
Assessment of Learning Outcomes from Ubongo TV and Mobile Products	Mar. - Dec. 2017	UNDERWAY - assessment being piloted in Dar es Salaam.  Data collection to begin in currently being conducted in collaboration with Uwezo and Cambridge University.

## PROJECT OUTPUTS AND DISSEMINATION

Project outputs provided with this report include:

- This Final Technical Report detailing learnings from the project
- A Freemium “Ubongo Kids Quiz” Android App (currently shared as a .apk file for installation straight to Android devices, and soon to be available for download from the Google Play Store)
- Market research detailing the potential for transformative and sustainable eLearning in East Africa *{Appendices B, C, and D}*
- Video of Ubongo Kids Episodes developed to promote digital and information literacy, and build a strong foundation for family eLearning.

Remaining deliverables for the project include:

- Full launch event for app (planned for December 2017)
- Infographic for sharing learnings about eLearning in East Africa (to be produced and shared post launch)
- Press release and other marketing materials including social media posts and adverts for app launch in December

We would be interested to hear from AFRINIC about any other requests for information sharing and dissemination.

## CAPACITY BUILDING

This project has had significant capacity building impact for Ubongo as a social enterprise.

*Capacity Building in Human Centered Design and Prototyping:*

A 2 day prototyping workshop was held in January 2017 to train the full Ubongo team on rapid prototyping. Team members built and tested lo-fi, mid-fi and hi-fi edtech prototypes and tested these with children throughout the workshop. This help build critical skills which were then applied by the research and marketing teams in development of the Ubongo Kids Quiz app for this project.

This afforded the opportunity for the Ubongo team to work with and learn from more experienced UX/UI designer Lillian Mushi for this project, who has also done capacity building for team members in this field.

### *Capacity Building in Project Management and Marketing:*

This project was also an excellent opportunity for capacity building and project management. We were able to work with Marketing Consultant Dan Code, who worked together with Ubongo Staff to design and implement the market research and develop the marketing handbook.

Mariam Mlangwa and Nisha Ligon were afforded the opportunities to attend AFRINIC Events and project management trainings in Kenya and Mauritius, respectively. These experiences have prepared us for further team growth to simultaneously manage multiple grant funded or client paid project.

## **PROJECT MANAGEMENT**

This project management was managed by Mariam Mlangwa, Outreach Officer, and Nisha Ligon, CEO, at Ubongo. From Nov. - Mar. 2017 they were supported by Marketing and Digital Consultant Dan Code, and from May 2017 - Nov. 2017 they were supported by Development Consultant Shehzeen Ladha.

The core leadership staff involved in the project were:

Nisha Ligon (CoFounder & CEO) is a social entrepreneur & techie with a background in media and science, and a passion for education. She has produced content for the BBC, the Guardian, and award winning docs. She is hands-on in product development, while also setting big picture strategy. She has a BS from Yale University and MSc from Imperial College London.

Mariam Mlangwa (Outreach Officer) is a Tanzanian marketer and businesswoman, who is dedicated to changing Tanzania through edutainment. She previously worked in marketing and outreach for the Tigo mobile network. She has extensive experience in direct customer outreach and marketing, and she takes the lead on all of Ubongo's customer facing outreach and marketing activities. The FIRE Africa grant has given Mariam the opportunity to step into a project and product management role, and she has driven the project forward from market research, to product development, to our marketing plan for launch.

Shehzeen Ladha (Project Management Consultant) formerly worked with Plan International in Canada in their Donor Marketing and Compliance Team on launching and promoting a number of their products, as well as with Femina HIP in Tanzania. Shehzeen joined us partway through the project to assist with project management and completion of the app. She was instrumental in testing, defining and managing the app development process, and filled the much needed role of a digital product manager for the completion of the project.

Doreen Kessy (COO & General Manager) is a Tanzanian business leader with experience in both nonprofit and for-profit sectors, from educational charities to banking. She is a WEF Global Shaper and Education Design Studio Fellow, and holds an MBA from Liberty University in the USA.

Rajab Semtawa (Co-Founder & Lead Animator) is Tanzania's top 2D animator. He has built Ubongo's in-house animation to be the strongest and most prolific in East Africa. He's designed all of Ubongo's beloved characters and previously animated content for major companies including Vodacom and Hashi Gas.

Christina Bwana (Head of Production) is a Tanzanian/German producer/director who keeps Ubongo Edutainment production flowing like clockwork, ensuring episodes get delivered for broadcast on TV, radio and online every week. She has her Masters degree in Visual Communication and Research, and broad production experience.

Anold Moshi (Head of Finance) has a strong financial management background and has worked with the Tanzania Revenue Authority and Ministry of Minerals and Energy. He is well versed in both commercial and non-profit accounting, and he has developed systems for integrated and transparent tracking, allocation and reporting of expenditure and time resources on activities and projects.

The project also involved a considerable number of partners, including Kola Studios, Shule Direct and Tanzania Broadcasting Corporation (TBC).

Since many of the involved parties are working with us remotely (Kola Studios in Uganda and Shule Direct in Tanzania/ San Francisco, USA) online collaboration tools including Slack, Adobe XC and Google Drive have been used to facilitate work.

Workflow Max has been used to track team time on this project, and to allocate costs accordingly.

As evidenced by the timeline, some activities were completed on schedule, while others were completed behind schedule, and a few deliverables are still pending at the end of project, but on track to be completed by end of year.

Financial management has been done in the Xero accounting software, with costs allocated according to the time reports from Workflow Max.

This is a completely new kind of project for Ubongo, and its project management has had a learning curve. But each of the challenges has been a learning opportunity, and we have improved our overall project management capacity by undertaking this project.

## IMPACT

We are very excited for the potential impact of this project, to provide deeper and more interactive learning experiences beyond TV for Ubongo's audience of kids in East Africa.

We are tracking our impact via 3 keys metrics: reach, learning outcomes and cost per beneficiary.

### REACH

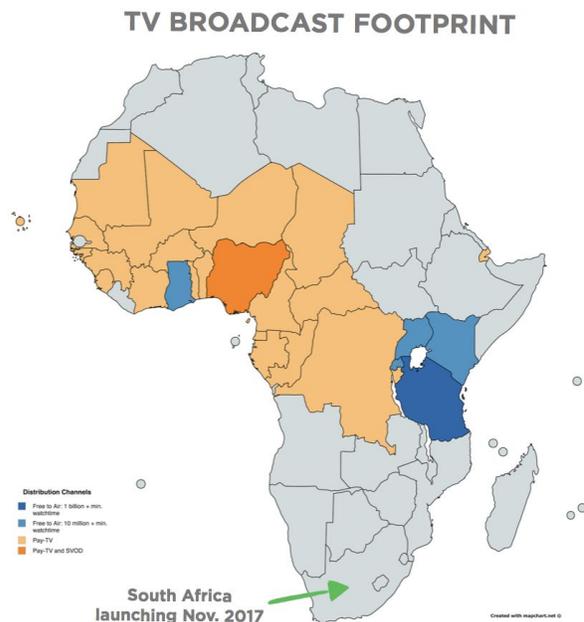
So far this project has reached over 672,000 households with digital and information literacy content, and we are aiming to reach an additional 22,000 families with the Ubongo Kids Quiz App before the end of the year.

TV Broadcast: The digital literacy content has so far been broadcast on TBC1 Tanzania (the national TV station of Tanzania Broadcasting Corporation) a total of four times (September 23, September 24, September 30 and October 1, 2017), and on Citizen TV in Kenya one time (September 23, 2017).

Date	TV Station	Country	Reach (households)
23/9/2017	TBC1	Tanzania	527,000
23/9/2017	Citizen TV	Kenya	<i>Data pending</i>
24/9/2017	TBC1	Tanzania	672,000
30/9/2017	TBC1	Tanzania	355,000
1/10/2017	TBC1	Tanzania	412,000

The above data is provided by the Kantar Geopoll Media Measurement service. The service polls a sample of 2000 households per country per day, collecting data in 30-minute time blocks.

The episode will continue to broadcast in 2018 on additional TV stations, including RTV Rwanda and NTV Uganda, with the total broadcast footprint by year end 2018 shown in the map below:



## LEARNING OUTCOMES

As the official app launch has been postponed to December 2017, we are unable to provide detailed impact data specifically for the app at this time, however we have been able to do an assessment of educational outcomes of our broader edutainment content.

We have also planned to shadow data collectors from the Uwezo Study in Tanzania for learning outcomes, however the data collection for Uwezo has been delayed from September 2017 to November 2017. An update will be provided as soon as learning outcomes data is available.

## COST PER BENEFICIARY

As the app has not yet been officially launched to the public, we cannot yet calculate this metric. We are, however, aiming for a cost per beneficiary of the project of about \$1.59 per beneficiary. We will provide updated numbers and calculations in early 2018.

## OVERALL ASSESSMENT

Overall the project has been a success, and though the launch of the app has been delayed, we believe that this will increase the overall impact of the project. The delay in launch is in response to the extensive learnings that we have gained from implementation of the project. The investment of time has been high, and accordingly, we will consider allocating a higher budget in the future.

The strengths of the project include the large amount of research that has been done, the quality of the user experience that has been designed, and the potential for it to reach a large number (tens of thousands this year, and hopefully millions in the future) of students in East Africa, and across the continent. We have also been able to leverage work and learnings done for other projects within Ubongo to strengthen the potential and impact of this project.

This will also be a first app of its kind in East Africa; a fun and educational app focusing primarily on the educational systems in Kenya and Tanzania. We believe the app will truly be an extension of their school curricula and continue to bring the fun in learning. Through our different user testing experiences, kids have been truly excited to continue to play through the different journeys of the app, and we are confident that they will continue to learn and play for months and years.

We are proud that we were able to create an app that fits the needs of our users, which is an “infinite journey” app that we can continue to grow as our users learn from it. We look forward to continuing to add new quizzes, topics, journeys and subjects to the app, and see it growing for many years to come.

We are also proud that we were able to go above and beyond the original project plan to also produce an animated episode of Ubongo Kids introducing young learners to the internet and helping to teach them about information literacy and responsible internet/ smartphone use.

The project is not a standalone, and the learnings from it have informed our company strategy for how we will approach mobile learning in the future.

The weaknesses of the project include limited capacity for development, difficulties of working with remote consultants for development (as opposed to an in house team) and delays due to a need for greater research and testing. There is also a dependency upon external partners for other product launches such as SMS. Though we have yet to agree terms with a partner to distribute the Ubongo Kids Quiz content through SMS, we are continuing to approach potential partners and explore innovative new methods of delivering this content, such as via IVR or in video overlays. As well as working with a payment integration partner to integrate a platform where users will be able to painlessly pay for the different subjects without having to go through too many steps this is still a new concept in Tanzania.

Another weakness is our delay in measuring learning outcomes, and the difficulty of isolating what learning outcomes are achieved from the app itself vs. school or watching Ubongo Kids programs on television. In order to rectify this, we may need to invest heavily in an impact evaluation of the app in the future.

These weaknesses have helped us to inform our company strategy, and we see each failure as an opportunity to learn and improve in the future. We now feel more ready as a company to move forward with a digital strategy that views apps not as standalone products, but rather as an

integrated component of a broader learning ecosystem, which includes our broadcast media content too.

We thank FIRE Africa and Afrinic, and we are deeply grateful for the opportunity to work together on this project.

## **RECOMMENDATIONS**

We have no additional recommendations to make at this time. We thank AFRINIC for their support on this project and will make additional recommendations in the final report.

## **CONTACT**

For any further questions please contact:

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# FINANCIAL REPORT

The total budget for this project was \$30,000.

To date, some project funds still remain as we wait for our app development partners to invoice us for the final payment, complete and pay for mobile money integration, market the full launch and gain approval from the TIE and KICD.

The remaining budget lines which have not yet been spent are:

Item	Amount	Expected Expenditure Date
Kola Studios Final Payment	\$4,160	Nov. 13, 2017
Mobile Wallet Integration	\$2,200	Dec. 1, 2017
Online Advertising	\$400	Dec. 23, 2017
KICD/ TIE Approvals	\$2,100	<i>Unclear - we have yet to hear back from either about next steps for content approval.</i>
Phone and In-Person Surveys	\$1,240	<i>We over-allocated budget for this and request to re-allocate towards app development.</i>

Budget Update:

No.	Project Budget Breakdown	Total Cost USD	Actual Expenditure 30th September, 2017	Balance Amount
1	<b>CAPITAL EQUIPMENT</b>			
	<b>Breakdown</b>	<b>Qty</b>	<b>Unit Cost</b>	<b>Total Cost</b>
	**No capital equipment is included in the budget, however depreciation of technology & studio equipment, as well as SAS software subscription is included in the day rates under salaries for team working on project			
2	<b>SALARIES (Instead of salaries we have included day rates, to be reported with time tracking, which include salary, transport allowance, computer and software pro-rata to day rate at actual cost)</b>			

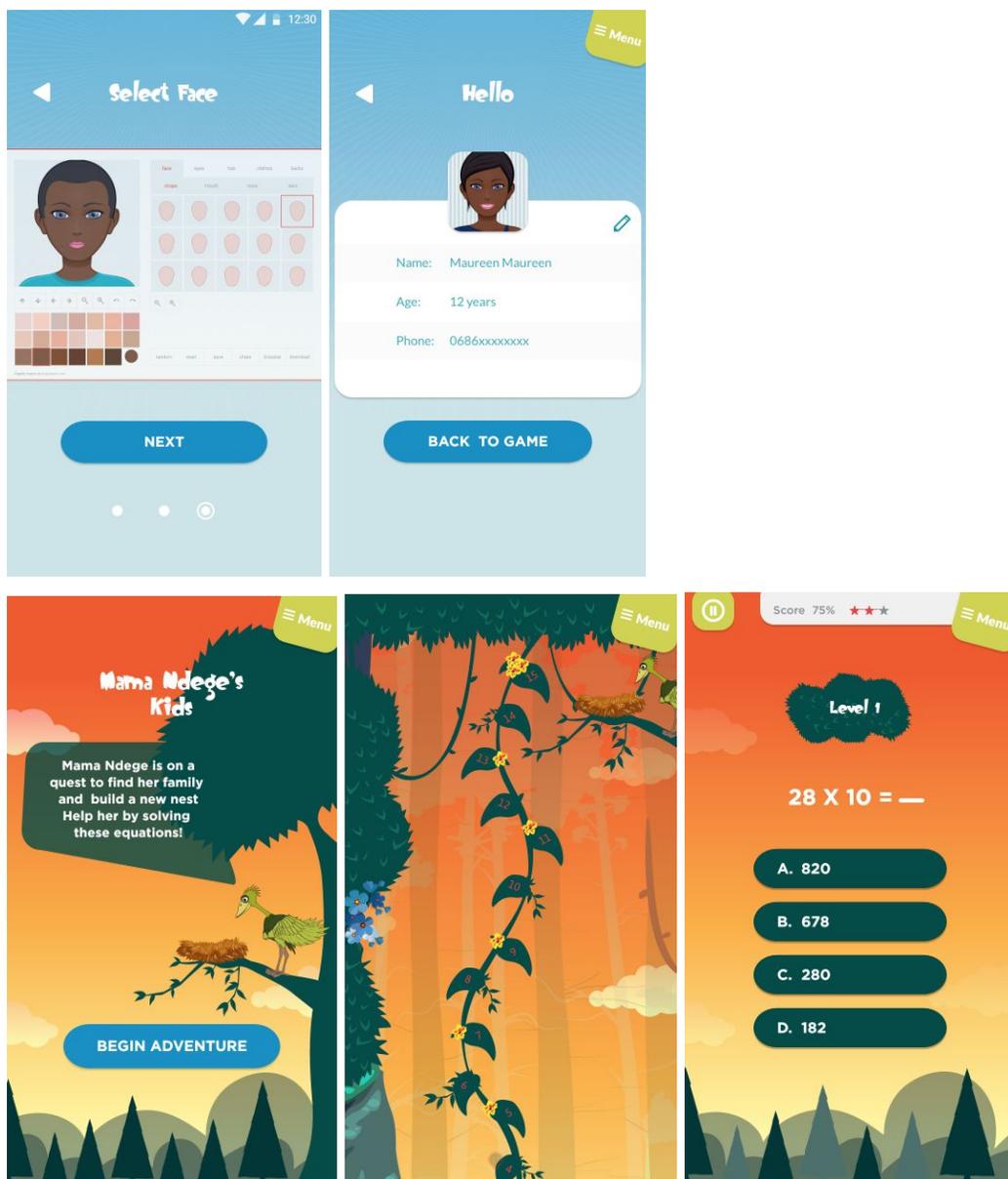
Breakdown		Qty	Unit Cost	Total Cost		
Education Director (per day)		10	\$125.00	\$1,250.00	\$904.82	\$345.18
Digital Manager (per day)		30	\$61.00	\$1,830.00	\$731.78	\$1,098.22
Production Unit (1 sound engineer + 1 animator + 1 producer)		16	\$180.00	\$2,800.00	\$2,800.00	\$0.00
Growth Hacking Unit (digital manager + social media assistant)		20	\$110.00	\$2,200.00	\$2,200.00	\$0.00
<b>3 PROFESSIONAL SERVICES</b>						
Breakdown		Qty	Unit Cost	Total Cost		
Local Teachers' Content Workshop Participation		40	\$20.00	\$800.00	\$646.38	\$153.62
Content Approval (Tanzania Institute of Education and Kenya Institute of Education)		2	\$1,050.00	\$2,100.00	\$0.00	\$2,100.00
API Customization (by Shule Direct)		20	\$90.00	\$1,800.00	\$1,800.00	\$0.00
Android App Coding		1	\$9,000.00	\$9,000.00	\$5,200.00	\$3,800.00
In App Wallet and Mobile Money Integration		1	\$2,200.00	\$2,200.00	\$0.00	\$2,200.00
Marketing and Customer Development Consultant		10	\$98.00	\$980.00	\$890.13	\$89.87
<b>4 RESEARCH EXPENSES</b>						
Breakdown		Qty	Unit Cost	Total Cost		
In-Office Focus Groups and User Testing with Children		14	\$31.00	\$434.00	\$219.76	\$214.24
Prototyping		20	\$110.00	\$2,200.00	\$1,890.50	\$309.50
Mobile Credit for Phone Surveys		20	\$3.00	\$60.00	\$0.00	\$60.00
Phone and in-person surveys		20	\$62.00	\$1,240.00	\$0.00	\$1,240.00
<b>5 INTERNATIONAL TRAVEL</b>						
Breakdown		Qty	Unit Cost	Total Cost		
						\$0.00
						\$0.00
<b>6 SUPPORT SERVICES</b>						
Breakdown		Qty	Unit Cost	Total Cost		

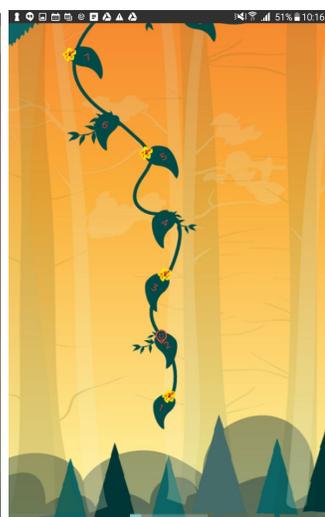
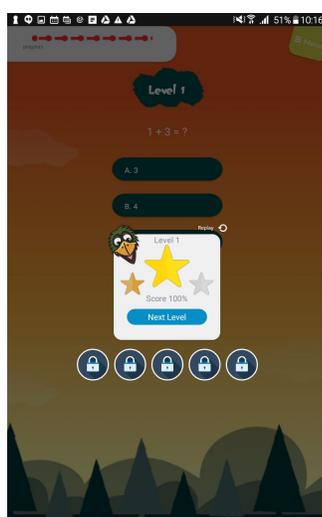
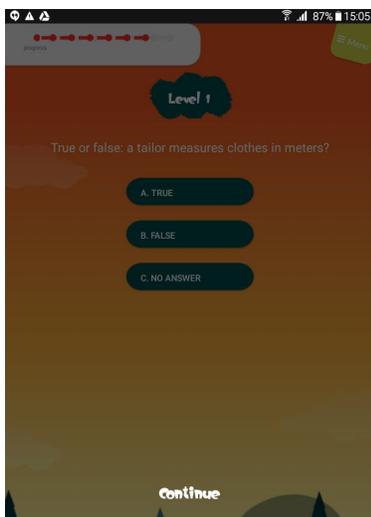
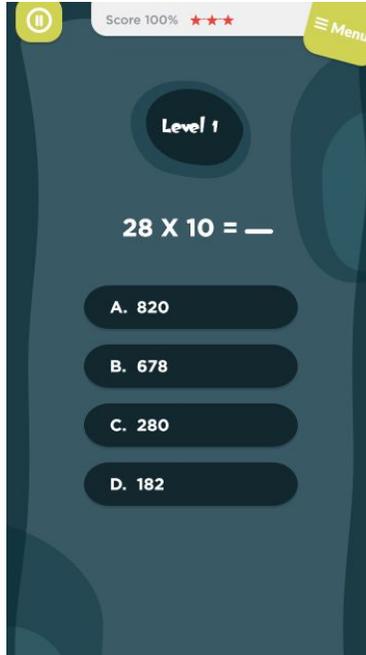
						\$0.00	
						\$0.00	
7	<b>OTHERS (Please Specify)</b>						
	<b>Breakdown</b>	<b>Qty</b>	<b>Unit Cost</b>	<b>Total Cost</b>			
	Cloud Hosting and SAS Fees	6	\$104.00	\$624.00	\$624.00	\$0.00	
	Online Advertising	2	\$200.00	\$400.00	\$0.00	\$400.00	
<b>TOTAL PROJECT BUDGET REQUESTED in Local Currency</b>							
<b>TOTAL PROJECT BUDGET REQUESTED in US Dollars</b>							
			\$30,000.00	\$17,907.37	\$12,010.63		

# APPENDICES

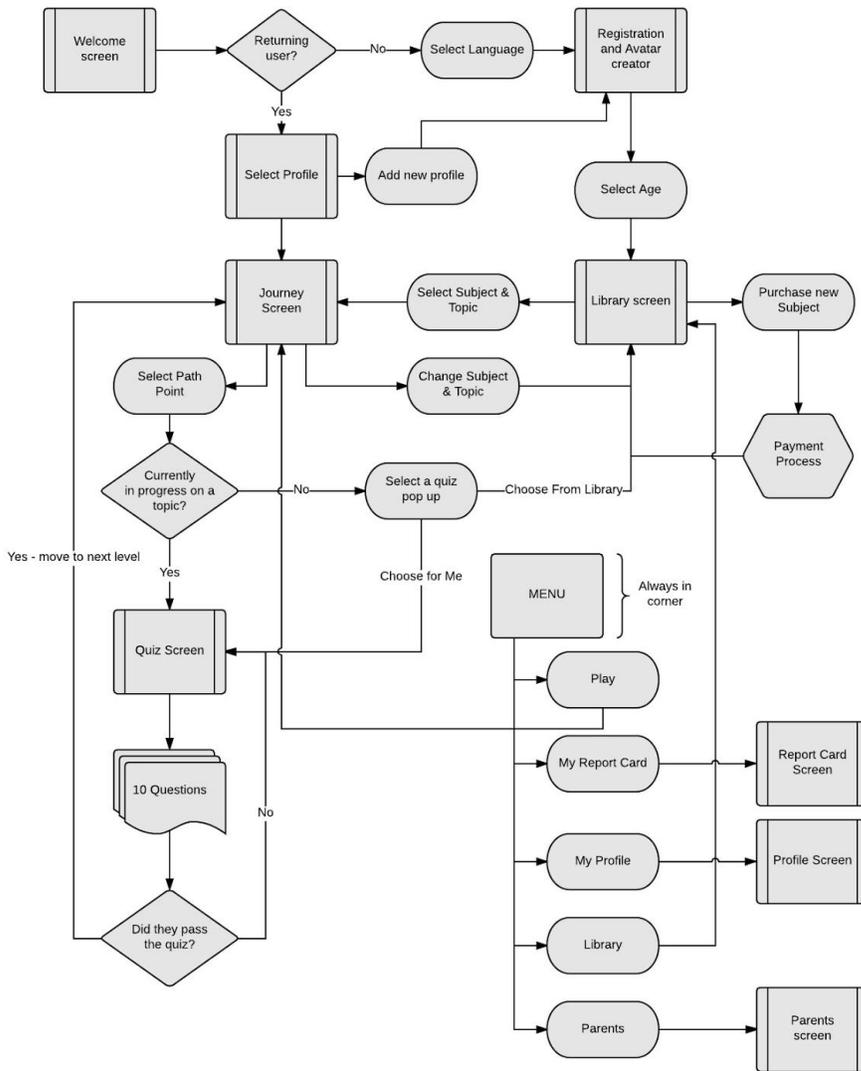
## APPENDIX A: APP DESIGN

### User Interface

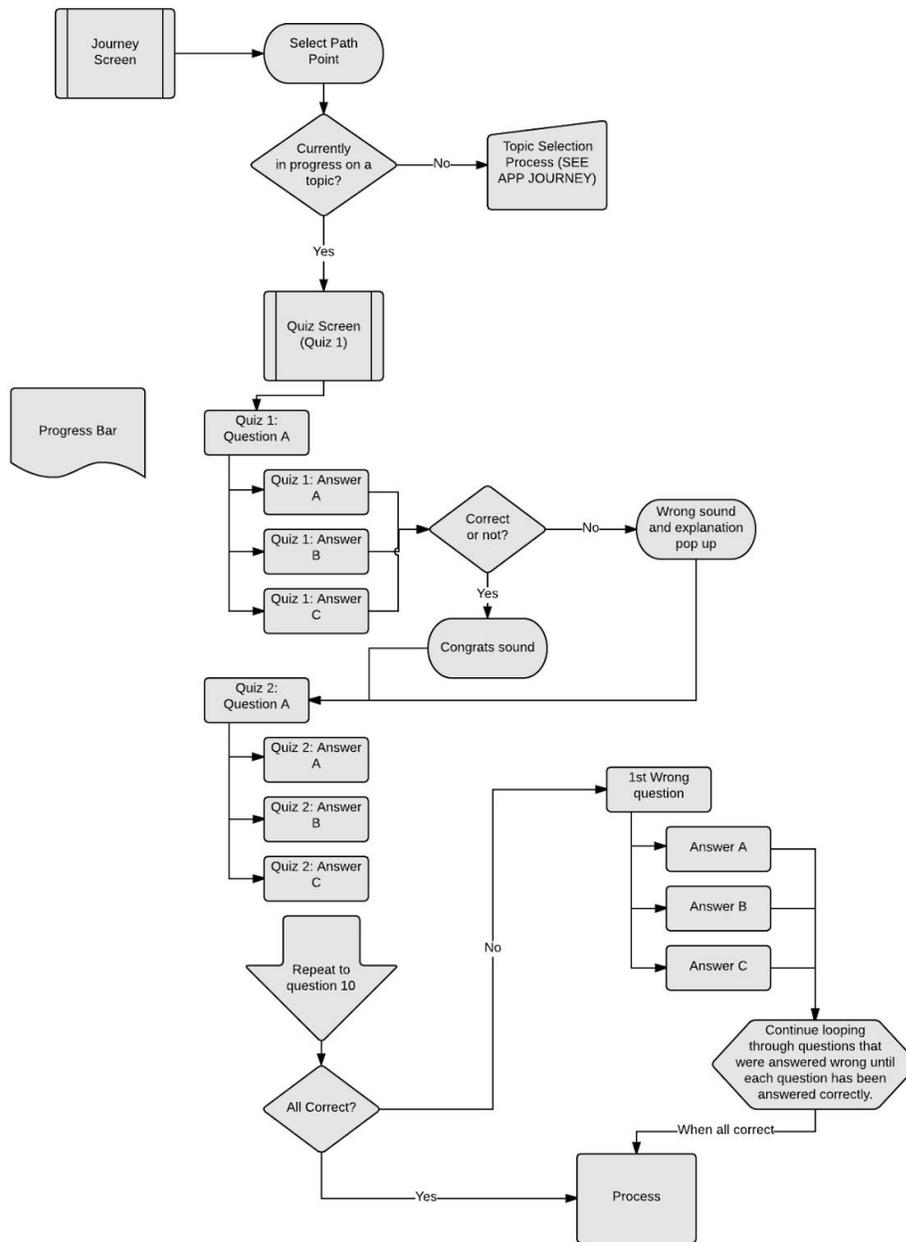




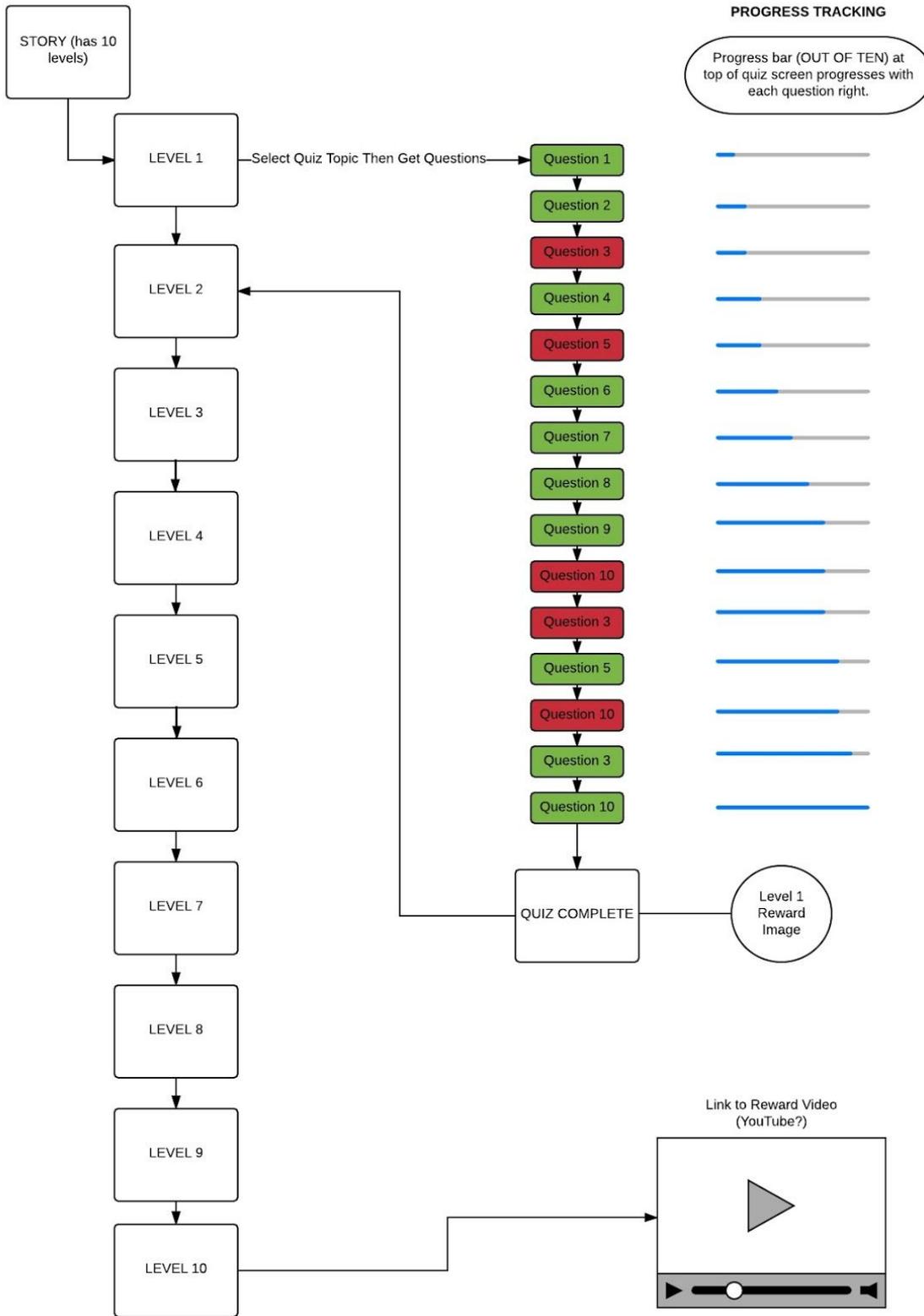
# User Journey



## Quiz Questions Logic



# QUIZ PROGRESSION



## APPENDIX B: APP MARKETING PLAN

**SMART GOAL:** To communicate the launch of the *Ubongo Kids Quiz App* on Dec 23rd during the Christmas/holiday period. Marketing's primary objective is to increase awareness of the app amongst Ubongo Kids' fans and drive downloads in the Tanzania and Kenya markets.

### Secondary Goals:

- App should have 30,000 active installs after first week of launch
- App should reach the top 3 most popular kids app in Playstore for Tanzania and Kenya
- Marketing will gain insights on Tanzanian and Kenyan markets' responsiveness to freemium educational apps

### Important Details

The app will be free to download and users will get to play the math quiz for free but they will have to pay a small fee, TZS 3,000 to unlock other subject quizzes. The integrated payment system through 3G Direct, will be able to accept all major credit cards, PayPal, and the various mobile banking systems available in Tanzania eg Tigo Pesa, MPesa, which is one of the most common way Tanzanians use to pay for services, making the app more available.

### Marketing Plan Summary:

Activity	Time Frame	Goal	Details	Costs
Social Media Campaign	Dec 11th - Jan 28th	To promote the launch of the Ubongo Quiz App to our online audiences and communicate the value the app will add to children's learning experiences	<ul style="list-style-type: none"> <li>• Pre-launch posts on Facebook about "something exciting is coming this Christmas..."</li> <li>• Post encouraging audience to tune in to Ubongo Kids on Dec 23rd for a special announcement</li> <li>• Dec 23rd - 25h posts and videos on Facebook and Instagram announcing the new app and demonstrating how to use it. "Spend X-mas growing your brain with Ubongo Quiz App...."</li> </ul>	\$50 for Facebook ads

			<ul style="list-style-type: none"> <li>• Promotional Campaign: “Audition” to be in a segment of an Episode by sending a video of kid playing the app. Only available to those in Dar, so we can bring them in for the video shoot.</li> <li>• Boost the most popular app-related posts through Facebook Ads to increase reach each week</li> <li>• Post of a kid with her / his parents allowing him/her to use their phone to learn through Ubongo Kids Quiz App. This will motivate other parents to do the same cause its an offline app.</li> <li>• Share playstore URL for people to download.</li> <li>• Posting milestone images like “within a month, thousands of people have downloaded and using our app, what are you waiting for?”</li> </ul>	
TV Promotional Ad - Tanzania	Dec 23rd - Jan 28th	To promote launch of app and how to use it to our TV audience	<ul style="list-style-type: none"> <li>• The marketing insights gained from past app launches shows that most people learn and download our apps because of our TV ads. We currently have free ad time through TBC in Tanzania, and we’ll use that slot to air two ads about the app.</li> </ul>	\$200

			<ul style="list-style-type: none"> <li>● The first ad will air from Dec 23rd and Jan 12th and it will promote and provide information on how to download the app. “ Something fun yet educational for your child to do during the holidays...”</li> <li>● The second ad will air from Jan 13th to Jan 28th and will communicate the benefit of the app to growing your child’s mind and preparing them to succeed in the next school year. (This will be a back-to-school focused promotion)</li> <li>● Testimonial from a Parent on the usefulness of our app to his/her kids. This will attract more parents to download our app.</li> <li>● Video of Instruction on how to download the app.</li> </ul>	
<p>YouTube</p>	<p>Dec 23rd - Jan 28th</p>	<p>To promote launch of app and how to use it to our YouTube audience (primarily Africans in the U.S and U.K)</p>	<ul style="list-style-type: none"> <li>● Add the TV ad to the beginning or the middle of Ubongo Kids and Akili and Me YouTube uploads</li> <li>● Add a card with link to app on Google Play Store at the beginning of every video</li> <li>● Launch a targeted YouTube Display Ad campaign using the Quiz App ad to reach even more online users who may be interested in downloading the app for themselves or their</li> </ul>	

			<p>kids (target mostly Kenya)</p> <ul style="list-style-type: none"> <li>• Video compilation of all existing apps from Ubongo.</li> </ul>	
Media Outreach	Dec 23rd - Jan 28th	<p>Publish articles about Ubongo Quiz app and related content on popular newspapers and blogs in Tanzania and Kenya. The goal is to reach parents and other 'gatekeepers' who are responsible for downloading and paying for purchases on the app.</p>	<p>Reach out to newspapers, blogs, and online content creators in Tanzania and Kenya to write guest articles related to quiz app and educational app for kids.</p> <p>For Tanzania these include:</p> <ul style="list-style-type: none"> <li>- The Citizen</li> <li>- Mwananchi</li> <li>- ZoomTanzania Blog</li> <li>- Michuzi Blog</li> </ul> <p>For Kenya these include:</p> <ul style="list-style-type: none"> <li>- The Green Calabash</li> <li>- Mum's Village</li> <li>- OMG Voice</li> </ul>	TBD
Influencer Marketing	Dec 23rd - Jan 7th	<p>Work with online influencers who have a significant amount of followers in Tanzania and Kenya, to promote the app and make it 'cool' to have</p>	<ul style="list-style-type: none"> <li>• Pick influencers who align with our values and reach both adolescence and parents.</li> <li>• Make the collaboration a post or video on their social media accounts as relevant to the audience as possible</li> <li>• Potential influencers to work with include: Faraja Nyalandu. Nancy Sumari, Rio Paul</li> </ul>	TBD
Back to School Kid's Event	Jan 13th	<p>To continue to raise awareness about the app in 2018, and sell it as a valuable tool that can help your child learn during the</p>	<ul style="list-style-type: none"> <li>• Do a meet-and-greet with Ubongo mascots and activities at a busy mall</li> <li>• Promote the event via TV and social media,</li> </ul>	\$400

		school year	and sell the books at site	
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## APPENDIX C: Interview Questionnaires

PARENTS' QUESTIONNAIRE WAZAZI	
Question/Theme Swali/Dhima	Probe Chunguza
1. What is your name? <i>Jina lako nani?</i>	N/A
2. What is your occupation? <i>Unafanya Kazi gani?</i>	
3. How many children do you have? Boys or girls? How old are they? <i>Una watoto wangapi? Wa kike au kiume? Wana umri gani?</i>	
4. Do they go to school/kindergarten? If yes, where? <i>Je wanaenda shule? Chekechea ama shule ya msingi? Kama ndio wapi?</i>	
5. Do you have a smartphone? If yes, what type? <i>Unamiliki Smartphone? Kama ndio, ya aina gani?</i>	N/A
5. Do you or your child know Ubongo Kids? Do they watch it? Have they used Ubongo Mobile? <i>Je, wewe na watoto wako mfahamu kuhusu Ubongo Kids? Je, huwa wanaangalia kipindi? Walishawahi kutumia Ubongo Mobile</i>	What do you like/think about Ubongo Kids and/or Ubongo Mobile? <u>Note:</u> Might be good to talk to some Ubongo Mobile customers

<p><b>6. Do your children use any applications on a smartphone or computer? Je, mtoto wako anatumia “application” yoyote kwenye simu ama kompyuta?</b></p>	<p><u>If yes? Kama “ndio’</u>          What are they? / Ni application zipi alizowahi kutumia          Do they use any quiz apps? / Ameshawahi kutumia App yenye majaribio ya Hisabati ama somo lolote?          What do <b>you</b> liked/think about them? / Ulipenda nini?          Unazionaje?          What do <b>they</b> like about them? / Walipenda nini?          How often do they use them?/ Walikuwa wanazitumia mara ngapi?          Do they change/get new ones a lot? / Huwa wanazibadilisha mara kwa mara?</p> <p><u>If no? Kama Hapana:</u>          Why not? Kwanini?</p>
<p><b>7. Do you have access to the internet? Do you allow your kids to use it? / Je, huwa unatumia mtandao? Je, huwa unawaruhusu watoto wako watumie?</b></p>	<p><u>If allow: Kama anawaruhusu watoto wake watumie</u>          For what types of activities? Under what conditions/rules? / Kwa matumizi ya aina gani? Chini ya vigezo vipi?</p> <p><u>If don’t allow: Kama hawaruhusu watoto wake watumie</u>          Why? Is there anything that your would allow them to access it for? Kwanini? Je, kuna kitu chochote kingine a,bacho kingekufanya uwaruhusu wanao watumie mtandao?</p>
<p><b>7. Present potential ideas. What do they prefer?</b></p> <p><b>(Work out whether we want to show current apps or prototypes of potential designs for ours?)</b></p>	<p>What do the they like? Wanapenda nini?          What don’t they like? Hawapendi nini?          What would they add/improve? Kitu gani wangekiongeza ama kukiboresha?</p> <p><b>How would they like the content structured?</b></p>
<p><b>8. Payment. Explain the freemium model. / Ungependa kutumia mfumo gani wa malipo?</b></p>	<p>What payment model would they prefer (in-app vs subscription)?          If subscription, frequency of payment (weekly, monthly, daily)?          How much would they be willing to pay? (Maybe use scale where ask increasing amount until they say stop)</p>

<b>KIDS' QUESTIONNAIRE</b>	
<b>SUMMARY</b>	
<b>Question/Theme Swali/Dhima</b>	<b>Probe</b>
<b>1. What is your name? <i>Jina lako nani?</i></b>	
<b>3. How old are you?</b>	
<b>4. Do you go to school? What class are you in?</b>	
<b>5. What do you like &amp; dislike about school?</b>	
<b>6. Do you watch Ubongo Kids?</b>	Who is your favourite character? What do like/dislike about it?
<b>7. Do you use your parents' smartphone to play games?</b>	When do you use it? For how long? What games do you play? What do you like/dislike about them?
<b>8. Did you use play Ubongo Mobile?</b>	What did you like/dislike?
<b>Other Notes</b>	

## APPENDIX D: B2C Product Assessment

### Overview

Ubongo's consumer products bring our stories and characters to life through innovative and engaging digital experiences and physical products across several categories. Our current lines of business include:

- 1) **Retail** - Products that are directly marketed to consumers include Ubongo-branded:
  - a) T-shirts
  - b) Posters
  - c) And Akili and Me and Ubongo Kids season one DVDs
- 2) **Games and Apps** - We have two live products in the android marketplace and two under development to launch in the next 6-12 months:
  - a) Akili's Alphabet (English and Swahili), live
  - b) Math Rats (English and Swahili), live
  - c) Ubongo Kids Quiz app, under development with anticipated launch in 09/2017
  - d) Akili's Portal app, under development with anticipated launch in 09/2017
- 3) **Content Publishing** - A number of our products are published and/ or distributed by third party partners and distributed through their channels.
  - a) Songs via TuneCore
  - b) eBooks via Kitabu
  - c) Print books via Mkuki Na Nyota
- 4) **OTT Platforms** - We also license our content to the following OTT platforms:
  - a) YouTube
  - b) Facebook Video
  - c) [Integrate w/ Doreen's work]

Currently, we generate very little revenue from each product category and lack a defined overall B2C strategy as well as individual go-to-market strategies for each segment. We have not evaluated pricing strategy yet as well given the relatively low revenue coming from B2C products. This is a high priority item for Q3.

### Category Reviews

#### Retail

Ubongo Lead	Mariam
Products	T-shirts, posters, DVDs
Sales Channel	Primarily direct, through events (e.g. Saba Saba) and at our offices. Ubongo t-shirts are sold through one distributor - Supermarket located at Sinza in Kinondoni Municipal
Audience	Per Mariam: <ul style="list-style-type: none"> <li>• Customers are primarily middle class parents with smart phones, local, may have 1 kid but raising other kids from relatives as well (family size is typically big ~3kids)</li> <li>• Most of the time, father will be the one who provides the money but after mother has approved the content</li> <li>• Supermarket demo: middle class locals - Sinza supermarket gets a lot of foot traffic b/c there is a Puma gas station there.</li> </ul>

Notes and Observations	<ul style="list-style-type: none"> <li>● We lack a distribution strategy - high cost for us to manage this ourselves</li> <li>● Piracy is a double edged sword as it supports our marketing efforts but pushes sub-par products into the market and eats into our revenue</li> <li>● Most of the demand comes from outside of Dar, i.e. Moshi, Dodoma, Zanzibar (Mariam's personal phone number is on the promo materials so she gets calls from these areas asking about our content)</li> <li>● Kids sizes in highest demand</li> <li>● Supermarket: sells out w/ in 1.5 months - gave Sinza supermarket 20 tshirts, and they sold 10 tshirts each week</li> <li>● Kivuko - eCommerce</li> </ul>
Goal	<ul style="list-style-type: none"> <li>● Local channel to keep pulse on the market</li> <li>● Testing broad range of kids and parents, space for anecdotal research</li> <li>● Engagement event for community</li> <li>● Have a proof of concept to take to partners who would want to do merchandising / Supermarket for instance</li> </ul>

### Games and Apps

Ubongo Lead	Nisha, Mariam, Shehzeen
Products	<ul style="list-style-type: none"> <li>● Math Rats (Eng + Swa), live</li> <li>● Akili's Alphabet (Eng + Swa), live</li> <li>● Ubongo Kids Quiz App, completed and ready for launch</li> <li>● Akili's Portal App, under development</li> </ul>
Sales Channel	Google Play Store
Audience	<ul style="list-style-type: none"> <li>● The majority of our app downloads came from Tanzania (93%+), with Kenya and the US trailing significantly behind, typically ~3% and 1% respectively</li> <li>● The download by device data shows us that the majority of downloads came from Tecno, Samsung and Huawei phones though the exact breakdown may not be precise</li> </ul>
Notes and Observations	<ul style="list-style-type: none"> <li>● 200K+ total installs should be considered in relation to 62K current active installs; 69% of total installs have uninstalled the app</li> <li>● Anecdotal evidence points to the large size of the apps as a reason many users have uninstalled</li> <li>● Math Rats English: promoted with little to no marketing and by far the lowest of all app installs but Math Rats Swahili was promoted and performed well</li> <li>● Math Rats (eng) had about 4% of downloads come from the US and Kenya despite very little marketing around the app</li> <li>● Akili's Alphabet: promoted heavily for 2 weeks prior to launch on Jan 7, 2017. Looking at the number of total installs compared to Math Rats English, the early promotion on Twitter, FB, and Instagram was highly effective</li> <li>● We only promoted Akili and Me outside of Tanzania, with a Kenya link through our FB page in the 2 week pre-launch social media calendar - did not track the results from that Kenya promotion so difficult to say whether it was a strong contributor, but our Akili app had 2x as many English downloads in Kenya as the Kiswahili version</li> </ul>
Goal	<ul style="list-style-type: none"> <li>● Test and drive monetization across geographies</li> <li>● Continuing learning for children outside of weekly TV programming</li> <li>● Deeper learning</li> </ul>

App	Live	Platform	Active Installs	Total Installs	Total Uninstalls	Uninstalls as % of Total
Math Rats	Yes	Android	364	2,645	2,281	86%
Akili's Alphabet	Yes	Android	22,334	66,832	44,498	67%
Herufi na Akili	Yes	Android	24,506	67,493	42,987	64%
Hesabu Za Panya	Yes	Android	41,249	131,887	90,638	69%
<b>Total</b>			<b>88,453</b>	<b>268,857</b>	<b>180,404</b>	<b>72%</b>

### Content Publishing

Ubongo Lead	Mariam (biz), Hannah (content)
Products	<ul style="list-style-type: none"> <li>● Print Books <ul style="list-style-type: none"> <li>○ 11/2/2016 contract for 8 books w/ Mkuki Na Nyota but nothing has been published yet</li> </ul> </li> <li>● eBooks <ul style="list-style-type: none"> <li>○ We have ~90 Akili and Me and Ubongo Kids eBooks available for purchase on Kitabu at 2,000 TZS per download and a few free books as well</li> <li>○ Worldreader (TBD)</li> </ul> </li> <li>● Tunecore <ul style="list-style-type: none"> <li>○ We've published 4 albums: Ubongo Kids The Magic of Mathematics (Eng + Kiswahili) and Learn with Akili Numbers and Shapes (Eng + Kiswahili)</li> </ul> </li> </ul>
Sales Channel	<ul style="list-style-type: none"> <li>● Print Books: Mkuki Na Nyota - Ubongo is responsible for promotion/ marketing with revenue share with publisher</li> <li>● eBooks: the Kitabu app is a Tanzanian-based digital ePublisher app available on both iOS and Android with low memory imprint.</li> <li>● Tunecore: The bulk of our Tunecore revenue comes from Apple Music / iTunes (~75%) and Amazon (~20%)</li> </ul>
Audience	<p>Print Books:</p> <ul style="list-style-type: none"> <li>● Mkuki Na Nyota is one of Tanzania's most famous children's book publishers, largely selling to a local middle class demographic</li> <li>● They sell in bookstores and through distribution agents but we don't have details on where their agents sell and which specific bookstores they are in</li> </ul> <p>eBooks:</p> <ul style="list-style-type: none"> <li>● Unclear how many downloads they have but given Tigo partnership can assume they are preinstalled on Tigo phones</li> </ul> <p>Tunecore:</p> <ul style="list-style-type: none"> <li>● We do not have demo level breakdown from Tunecore as each platform is different but we are seeing a lot of traction on Apple Music / iTunes and Amazon, which we can infer that these customers are high income and likely in the US or EU</li> </ul>
Notes and Observations	<ul style="list-style-type: none"> <li>● We have made very small amounts of revenue on Tunecore with no marketing effort</li> <li>● We have not made any revenue from eBook downloads</li> <li>● We have no demographics of those engaging with our content</li> <li>● We have not pushed any of our eBooks with marketing campaigns</li> </ul>
Goal	<ul style="list-style-type: none"> <li>● Use individual content pieces to package engaging products for various target audiences</li> </ul>

**Key Summary:**

- 1) Retail has been our biggest revenue driver across products
- 2) We have many products in several channels but lack clear monetization strategy or target customer for each
- 3) Our products strategy is not well integrated with our geographic expansion strategy
- 4) App marketing was critical to downloads of Akili's Alphabet and Math Rats in Tanzania and targeted promotions in other geographics / demographics should be planned for future app launches
- 5) Need a cohesive overall strategy for local markets and external markets that combine usage of existing products as necessary

**Recommendations:**

- 1) Retail events have been incredibly successful at Saba Saba in Tanzania - we should leverage similar festivals / markets in high priority markets such as Kenya and Nigeria to 1) develop a pulse on the local market, 2) test reception of apps, DVDs, etc on kids, 3) invite potential staff as a intro to Ubongo event.
- 2) Marketing is critical for app downloads - we should begin a marketing promotion plan for each of our new apps at least 1 month in advance of launch. Given our target launch date is September 2016 for both apps, we should begin our planning now, concurrently as we develop the app. This plan should take into account our geographic expansion targets as well as leverage FB, YouTube, Twitter and our TV channels.
- 3) Begin formulating cohesive strategy by segmenting by target geographies and market entry strategy for each:
  - a) Kenya
  - b) Nigeria
  - c) Diaspora

This will include careful product launches and promotions leveraging our existing channels as well as exploring new ones. Current scattered usage of social media to push apps is lazy and we should be more focused on our intentional expansion.