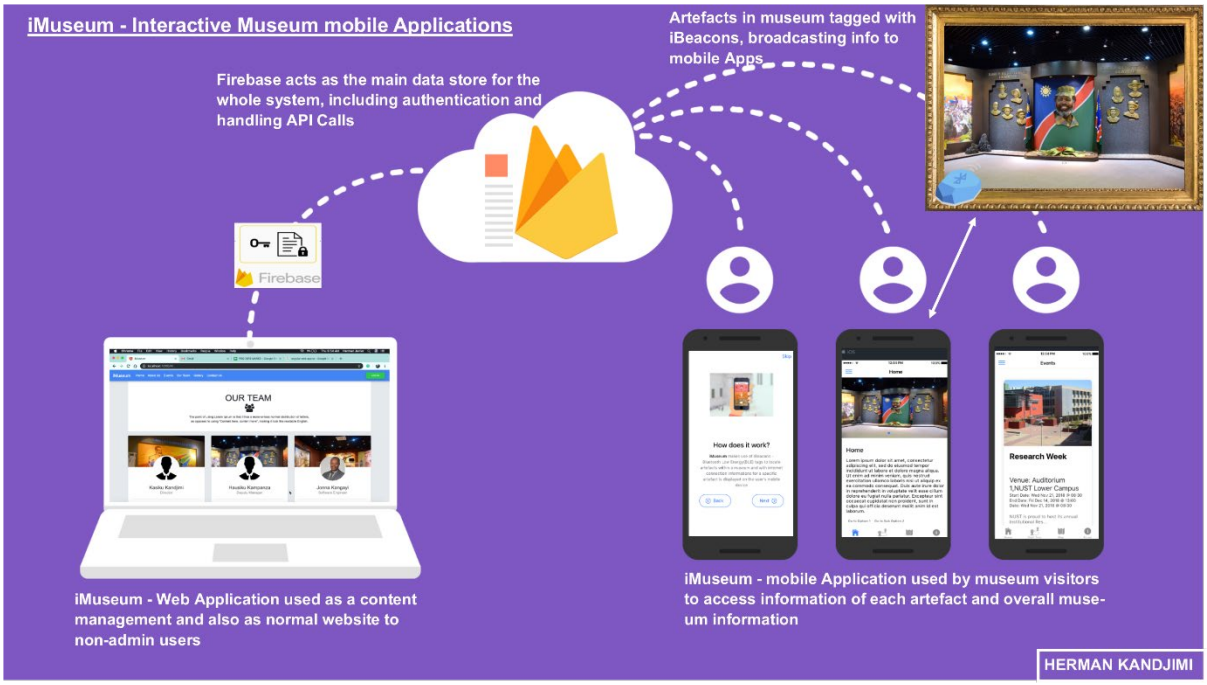
Namibia University of Science and Technology
Faculty of Computing and Informatics Demos

#TechBazaar2019 | 22-23 May 2019 | NBII, Glück Street 1

Interactive museum visitors' multi-platform mobile application

By Herman Kandjimi

Demo on it's overall integration of the system's web application with firebase as the cloud storage for all data used by the mobile application.



A GPS Enabled Mobile Application for the City of Windhoek Bus Service

By Elizabeth Deapo Ndeshitile & Gabriel Tuhafeni Nhinda

In this demo we present a hybrid proof of concept bus tracking mobile application. We utilize the GPS (Global Positioning System) technology to track and monitor City of Windhoek (CoW) buses with the aim of improving rider experiences and support the CoW towards being a smart city. This demo will consist of an internet enable smartphone mobile application that we can utilize to track CoW buses, to represent CoW bus riders. We named the application "Mov Bus Nav". The setup consists of a tracking mobile application on a smart phone in a pseudo bus which uses GPS to track the current location of the pseudo bus and sends the location of the pseudo bus to a server every 10 seconds. The bus riders would then be able to use Mov Bus Nav to track their preferred bus line.

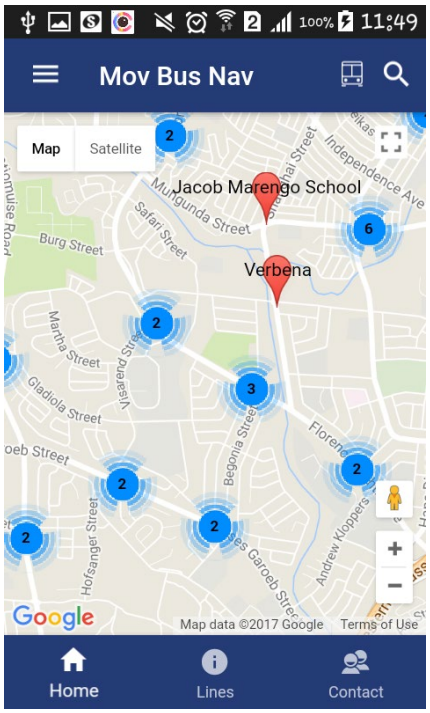


Figure 1 Home page in map mode with bus stop makers

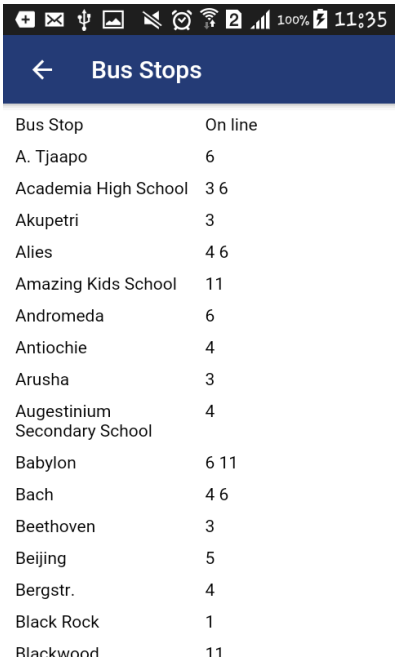


Figure 1 Bus stop names and bus line that operate at each bus

A GPS Based Tracking System to Monitor Farm Animals (Goats)

By Jovita Mateus, Prof Guy-Alain L Zodi

A GPS (Global Positioning System) is a technology that can be used to track and locate any object. This project presents a GPS based tracking system that monitors and locates straying goats on a remote farm in real-time. The demo consists of three solar GPS trackers. These GPS tracking devices are configured through a selected modified tracking application (the AnyTracking) and the mobile phone (main monitoring number). The geofence which is the determining factor is setup based on the animal farm structure. The three tracked goats are kept within the defined geofence. Once a goats exit the geofence an immediately sms alerts are triggered through the mobile phone and the AnyTracking application.

Fig 1 Solar GPS tracker attached to a goat

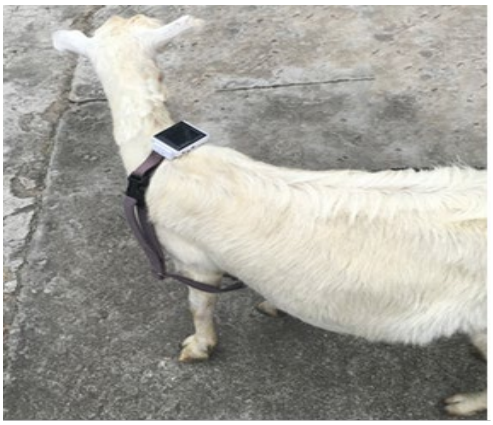


Fig2 Farm Area and position of Goats

Indigenous Knowledge Safeguarding Technologies

By Donovan Maasz, Michael Chamunorwa, Colin Stanley, Heike Winschiers-Theophilus

1. Media Collection Tool (MCT)

The MCT is an android based application that empowers IK holders to collect their own data regarding their traditions and cultures. The collected data can be photos, drawings, text, videos, or audio recordings. This data is then stored a structured knowledge base that will contextualise the data into scenario-based information.

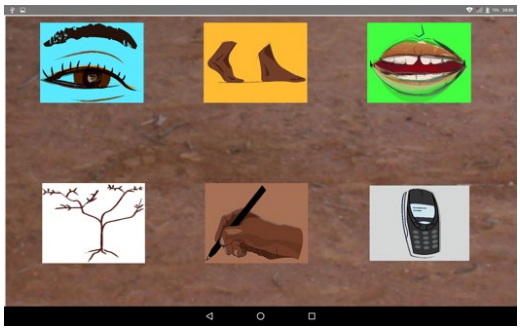
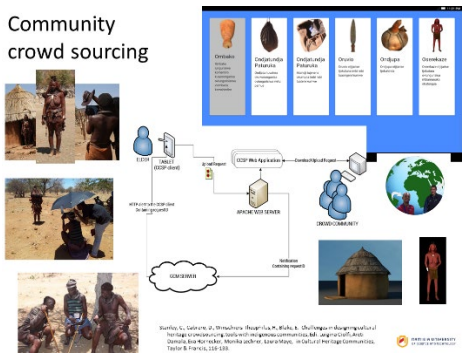


Figure 1: Media Collection Tool

2. Task Request Manager (TRM)

The TRM is another android based application that feeds on the data collected by the MCT to allow the IK Holders to create task requests based on grouped media. Once approved the request is published on a crowdsourcing website that allows the public at large to design 3D representations of the request and send back to the IK Holder for feedback/approval. Once approved the end goal is to import the 3D models into a simulation tool that will enable youth to immerse in virtual traditions while in urban context.



Onlinicus – Share Your Story Game

By Josephina Mikka-Muntuumo and **Prof Anicia Peters**

ONLINICUS-SHARE YOUR STORY is an interactive game designed to create awareness and teach young children and inexperienced users about the potential harm and negative effects of using the Internet and encouraging children to be open and report online child abuse. The game was endemically designed and developed by Namibians, specifically for Namibia children.

Using game collaborative design challenge workshops to design the games, Onlinicus was developed using the Unity3D game engine and coded in C# programming language. The game was designed with many defining features such as characters having lives that are have similarities to the stereotypical Namibian teenager. Another feature that stood out was a science fiction environment where online platforms are anthropomorphized and interact with the players. The game features diverse content focused on improving the decision-making processes as opposed to using multiple-choice questions. The game is described as fun, eye catching while being educational and very informative.

The highlights of the game (which were identified during the various testing phases) were that the game is an effective medium for teaching young and inexperienced internet users about the potential dangers that could be encountered on the internet. Another highlight is that the game contains links to real websites of organizations such as Childline and IWF, that aim to protect and help users against the dangers found online. Also, the game has intricate stories with scenarios that accurately simulate real life scenarios that users might come across. Videos are used as a tool to better elaborate on some of the concepts that the game aims to teach. More highlights include how the game mimics real, Namibian internet user experiences. The game also works on both PC and Mobile platforms or consoles. It does not require any internet connection. The game incorporates certain aspects that make it attention grabbing.

The study contribution is in the application of game-based approach to sensitize and prevent children from becoming victims of online abuse and to fearlessly report such incidents and finally to add to Namibian games, co-designed with stakeholders.

Designing a Gamified Career Guidance System for Namibian Learners

Annastasia Shipepe and Prof Anicia Peters

The Hard Struggle game exposes the learners to local career information which includes admission requirements to HEIs, HEIs offering those careers, career descriptions as well as salary estimate. The game is developed with gamification elements i.e. user interaction, victory and penalty actions, which means the player gets rewarded or penalized depending on the choice made when playing the game. The interactive game was developed based on a story using Episode Interactive, a platform used to develop story games. Games developed with Episode Interactive are compatible with both Android and iOS mobile devices. However, the Episode Interactive games are not independently available on Google Play Store or App Store, they must be downloaded through Episode Interactive. The latter means the user must first install Episode Interactive to play the game. Those who tested the game were however happy with how the game provides clear career information. Overall, this study contributes to HCI and gamification body of knowledge as the game was designed and developed through the use of RtD methodology with participatory co-design workshops.

Health Informatics demo

by Suama Hamunyela

The Namibia Health Informatics Project (NHIP) is a multi-year, multi-national collaboration between the Namibian University of Science and Technology (NUST) and Azusa Pacific University (APU); the NHIP's primary objective is to develop an electronic medical record (EMR) system as a prospective software solution to replace the current paper-based medical records and health passports being used by Namibia's public facilities.

We will demonstrate the core functionality of the existing NHIP prototype. We will discuss the current direction and rationale of the NHIP's new prototype, as well as special considerations needed for technological projects of this magnitude to succeed.