

## Title of the workshop

A dynamic co-creation knowledge repository for Africa

### 1. Names and affiliations of the facilitators

The names and affiliations of the workshop facilitators include;

Name	Affiliation
Prof. Christopher Chepken	University of Nairobi, Kenya
Ms Martha Mosha	University of Namibia, Namibia
Mr Peter Oseghale Ohue	University of Ibadan, Nigeria

### 2. Descriptions

Imagine for a moment about a village elder, a community health worker, a traditional herbalist, language expert in a remote village in Lamu county, Kenya and being faced with dilemmas around various thematic areas such as:

- a) Health
  - An outbreak of a disease in Kenya (for instance cholera).
    - What is cholera?
    - In which village did it happen?
    - How do you get information?
    - What are the first steps to take?
- b) Agriculture and food security
  - Crops are exhibiting odd symptoms.
    - Could this be a disease?
    - If it is, what kind of a disease is it?
    - How do we tackle it?
    - Who do we consult?
  - 20% of the children in Lamu are suffering from malnutrition
    - What is malnutrition?
    - Do we have Children with malnutrition and how many are they?
    - How do we deal with malnutrition?

Despite the accessibility of technology via mobile, other computing, and other interactive devices, there is still a digital gap regarding content access. This can better be understood by considering the findings in an article titled, [“Digital Divide Research, Achievements and Shortcomings” by Van Dijk, Jan A.G.M. \(2006\)](#). Although there is now an abundance of digital content and educational resources available online, general knowledge and learning topics like climate change, health (such as disease outbreaks), agriculture, African languages, and school content (such as curriculum changes) are frequently out of context when accessed through large search engines and learning platforms. A few of the renowned, massive search engines are Google, Badu, Bing, Yahoo and Yandex. In terms of learning platforms, there exists; Udemy, Coursera, Khan Academy, Edx, Pluralsight, Udacity, Future Learn and so on. There are many other sources including but not limited to Quora, Wiki, LinkedIn, and several Learning Management Systems (such as Moodle, Discord, Slack and Canvas).

Take for example a search like "*what foods are good for diabetics?*" The results for such a search may have fruits/food which may be more common in the western world but not in Africa and global south in general. There is also the possibility that the names may differ or may not be appropriate for a group of people. In addition, language barriers, in terms of understanding the language used may hinder the learning or acquisition of knowledge. Despite the huge popularity of Artificial Intelligence, Machine Learning and Deep Learning, the challenge of bias in data collection, training and testing has remained a problem.

In addition, the said global learning, content or knowledge platforms provide knowledge in a fragmented manner. For learning to take place, access to different sources may be required. In cases where attempts have been made to contextualize knowledge acquisition and learning, most of the solutions have been specific and narrow in nature. For example, initiatives such as job search applications and systems, are usually narrowed to a given area, scoped to fit only job search and transcend time.

### **3. Aims of the workshop**

For the reasons, the aim of the workshop is to gather community experts to brainstorm on the best way to deliver a human computer interaction (HCI) solution for a go to knowledge repository which is accessible, contextual, and localized. This could serve as a channel to inform Africans about the foundations of HCI, its significance, and its applicability to the continent. It can offer details on usability, accessibility, and user-centered design concepts as well as interaction methods. The platform should also address community driven issues such as content trust and validity, dating of content, relevance, interpretation, and content change/revision over time. Issues such as content tailor making (for example rephrasing content for a specialized group of people who would not otherwise understand the standard form) and pull rather than push (where users will be requesting for information and knowledge rather than being bombarded with) will also be discussed.

### **4. Objectives of the workshop**

The workshop objectives will follow from the activities meant to achieve overall aim of the project, which are to:

- Identify areas of common knowledge interest among the majority Africa;
- Collect and refine initial content based on identified knowledge areas;
- Build a sustainable contextualized long-term general-purpose knowledge repository for Africa using a suitable platform; and
- Identify a suitable framework for the community and knowledge experts to continuously collect, refine and update content.

As such, the workshop objectives will be to:

- Spell out a roadmap for finding out the actual challenges associated with learning and knowledge sharing in Africa;
- Map out the knowledge scope of the learning and knowledge repository platform;
- Discuss appropriate means and ways to identify common knowledge areas for Africa; and
- Propose a schedule of work and a resource mobilization strategy.

## 5. Benefits of the workshop

The workshop would be beneficial in the following ways;

For the participants

- A chance to network, engage and collaborate with other participants around issues of an African knowledge repository;
- Get to share experiences and learn of solutions that do or do not work in the African context;
- Gain insights into what others are working on for solutions within the area of knowledge repositories;
- Innovate and co-create possible solutions for a knowledge repository platform for Africa;
- Being accorded the chance to be part of (or nominate) the team of champions who would develop the knowledge repository.

For the instructors

- At least a paper would be published as one of the outcomes of the workshop;
- A framework/skeleton of a knowledge repository would be established;
- A team of champions would be identified to work on developing the knowledge repository.

## 6. Significance of the proposed workshop

The workshop has the following significance;

- Participants would co-design around a given problem thus getting a chance to interact and network;
- Participants would be the brainchild of a knowledge sharing platform;
- The outcome of the workshop would provide a platform which would work to reduce misinformation and hopefully provide an area for fact checking.

## 7. Intended audience

Researchers: A network of HCI researchers and practitioners across Africa and the globe.

Research students from Africa and those from the rest of the world but working on African related research.

Knowledge contributors: Scholars, local leadership, indigenous knowledge resource persons, Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs) among other volunteers.

Beneficiaries: Communities across Africa, scholars, historians, and any other interested person.

## 8. Overview of the schedule

The workshop will largely take the format of a brainstorming session. The total workshop time will be 60 minutes having the following sub-sessions:

- a) Introduction to the background of the issues to be addressed: 5 Minutes
- b) A plenary session to discuss the issues raised on the background presentation – 15 minutes

- c) Group work discussion to tease out the current challenges of knowledge access, acquisition, and dissemination – 20 Minutes
- d) A plenary to receive and discuss the possible pathways – 20 Minutes

The outcome of the workshop will be guided by the objectives and are as shown in the table below:

#	Objective	Outcome
1	Spell out a roadmap for finding out the actual challenges associated with learning and knowledge sharing in Africa.	Strategy to identify knowledge acquisition and learning challenges in Africa
2	Map out the knowledge scope of the learning and knowledge repository platform.	Scope of work
3	Discuss appropriate means and ways to identify common knowledge areas for Africa	A research design on how to identify common learning areas in Africa
4	Propose a schedule of work and a resource mobilization strategy	Project schedule and an associated budget.

## 9. Workshop promotional strategy

The workshop organizers will largely leverage on online promotional strategy by taking advantage of the existing and developing networks. Besides being advertised through AfriCHI 2023 website, the following networks will be utilized to reach out as many audiences as possible;

- The networks have already developed at the preliminary networking and the online Africa People Centered ICT Summit held in June 2023.
- ICTD for Africa Chapter: The workshop organizers are members of the online ICTD for Africa network of researchers.
- The AfriCHI 2023: As part of the organizing committee, the workshop organizers will strive to reach out to the AfriCHI 2023 community across Africa and the world. The contact persons have been accumulated since the inaugural AfriCHI conference in Nairobi in 2016.
- Individual institutional and international networks for the workshop organizers will also be reached out to disseminate the call for the workshop.
- Individual social media accounts would be used to promote AfriCHI 2023 and highlight the workshop.
- There would be fliers designed to be added to the registration package at AfriCHI 2023.
- An online questionnaire would be used to capture the ideas of those who would not be present at the workshop prior to the session- it is hoped that this would also entice participation for those present. Findings from the questionnaire would be used as conversation starters.

## 10. Facilitators

Prof. Christopher Chepken

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Christopher is a seasoned ICT for development (ICT4D) researcher and educator. He has been involved in many digital initiatives for and with those at the bottom of the pyramid to develop solutions for their problems. Chris is currently an Associate Professor of Computer Science at the University of Nairobi. He is also an experienced software engineer for over ten years.

Ms Martha Mosha

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Martha is a digital media enthusiast and her interests are where digital media merges with communication science and technology enabled learning. She is currently a lecturer at the University of Namibia. Martha loves learning and expanding her skills in the area of digital public engagement.

Mr Peter Oseghale Ohue

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Peter is an educational consultant focused on career development and counseling. His area of interest includes climate science, natural language processing, LLMs, PGMs, BCIs, and neuroscience.