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# How can HCI help combat Gender-based Violence

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**Abstract**

In recent years, Gender-based violence (GBV) has increased in Namibia and has become a national priority. However, among the numerous national campaigns and research interventions, very little is done from a technology perspective. In 2016, we started exploring several avenues to determine how technology can help fight this phenomenon. GBV is no longer restricted to only physical abuse, but has taken to online forms of abuse as well. We are considering national information systems, tech solutions for ordinary users and institutions alike and social media interventions. We integrated HCI methods successfully in our interventions so far. One challenge is that GBV in Namibia is a stigmatized, sensitive subject and mostly associated with the Social Sciences. This makes it difficult to recruit students and researchers in the technology domains to join the projects due to fear of ridicule. However, we invite other researchers to join us in exploring what HCI can do to alleviate GBV.

**Author Keywords**

Gender-based violence; Namibia; online sexual harassment

**ACM Classification Keywords**

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

## Introduction

Namibia is a country in south western Africa with two deserts making it one of the least densely populated countries in the world [1]. Namibia's official language is English but multiple languages are spoken as the country has 11 main ethnic groups and is a tourist destination.

Namibia has gender equality enshrined in its Constitution and is a signatory to the Convention for the Elimination of All Forms of Discrimination Against Women (CEDAW) [2], a National Gender Policy, progressive laws for Combatting Domestic Violence and Rape. Namibia also boasts 46% women representation in Parliament [3]. Women further has a higher literacy rate than men (youth: 91% versus 83%) and girls in general have higher enrolment rates in primary and secondary schools [4]. The Namibia University of Science and Technology (NUST) graduated over 50% women in Computing in 2016, which surpassed the usual rate of 44% women graduating in Computing over the last years [5].

However, this picture is in stark contrast to a very worrisome trend. Gender Based Violence (GBV) has dramatically increased over the past few years [6]. A study in 1998 showed that three top contributing factors of GBV included jealousy, substance abuse and poor self-esteem, but cultural acceptance was very low (10%) at that time [7].

Given that gender equality is one of the United Nations' Sustainable Development Goals and a top national priority for Namibia, it is surprising that very little technology solutions or tools exist to address the GBV problem. So, we at the university and as a group of

women in Computing across many different institutions and organizations decided to include it as a priority area in our existing research clusters and our work with developers, youth and local communities.

## The Road to a Hackathon on GBV

In early 2016, the Namibia Women in Computing Society (NWIC) was born. The group membership comprises professional women in industry and academia, university students and secondary school learners. The Society is a local ACM\_W chapter.

The group along with NUST and two developer groups decided early on to organize a Hackathon on Gender Based Violence given the national concern surrounding it. However we first needed to train more people on mobile development to prepare participants for the event.

Fortunately for us, NWIC was approached by a mobile developer's group to encourage women to participate in free mobile app development training workshops. This was because merely 10% of participants over a two-year period were women and they mostly did not return for intermediate or advanced training.

We then consulted women who participated in the training before or dropped out to share insights on what we needed to change for more women to participate. So we advertised the training on social media but stipulated that women will train women. The response was overwhelming and we trained about 150 women in one group.

We used this training workshop to expose participants to HCI principles and methods beyond the standard UX

and material design training materials. We developed extensive Namibian personas representing all 11 ethnic groups with varying ages and contextual backgrounds. We also integrated paper prototyping sessions for early design feedback.

Although we decided not to target specifically women in our advertising for intermediate training, except for two men, only women returned. Again, more UX components were integrated.

### **Hackathons and its unawareness of HCI**

In the past, most Namibian developers created applications just for the sake of completing the applications and the competition at Hackathons. Usually participants think of an idea or problem, brainstorm on a solution and then try to work on a solution and that is it. There is also a perception that Hackathons are only for coders/programmers to code and UX designers felt excluded. The focus usually is usually on development, functionalities and trying to finish the solutions without any regard for the user.

At a previous women only Hackathon in 2015, the women brainstormed on problems faced mostly by women in the society and then came up with possible app solutions. The women grouped into three groups for possible apps: 1) one was for educating teenagers on issues they face on a daily basis for example bullying, sexual education, etc., 2) the second app was called KOKO, an app that provides a listing of possible vacancies, and 3) another was Save-a-Life app which is an app to use in case of an emergency for example if one is being robbed or raped. All apps were successfully developed but without much focus on the UX components. Participants felt that some apps were not

comfortable or likable by women in regards to the design, color choice or interactivity on the app. Also the women received a lot of male criticism that groups did not come up with women specific apps but this was contestable as women felt that they came up with apps solving women's problems.

Another thing that is usually faced after the Hackathons is that participants usually fail to complete on their solutions afterwards and thus solutions never get to be implemented.

### **GBV Hackathon**

We then finally organized a Hackathon on GBV [8]. Since GBV is not only a women's issue, we specifically developed two different advertisements each aimed at a particular gender. Despite our mixed organizer team and carefully crafted ads, we still attracted 67% women. A total of nine Hackathon teams participated each consisting of students and professionals. Each team consisted of a coder, UX designers and project managers participated.

We however introduced differences to the Hackathon. We invited experts as an informant group and co-designers. This group consisted among others of GBV survivors, Social Workers, Psychologists, Lawyers, Government workers, Women and Child Protection Officers and interest NGO workers. Prior to the Hackathon, the group held several preparatory meetings to develop personas, scenarios, videos and stories based on data from real cases.

The Hackathon was preceded by the expert informant group giving background information and survivors sharing personal stories. Participants expressed

surprise at the severity of the problem and that there was no class, race, religious or nationality discrimination, but the stories also showed how widespread the problem was. Teams were then given the personas and scenarios to work from. The expert informant group then came in during periodic intervals and sat down with teams to be interviewed or to review and redesign the solutions.

### **Roleplaying African Hut as Persuasive Tool**

We used the Hackathon's expert informant team to gather expert advice and data for an African hut with interactive roleplaying applications as part of a Tales of Nali initiative [9, 10]. The hut also served as additional information source for Hackathon teams. The Tales of Nali initiative consists of a social media campaign against GBV coupled with a traditional African hut and interactive roleplaying application [9, 10]. The social media campaign features provocative short videos self-produced by two Master's students studying in Computer Science and Social Science respectively. The videos are uploaded to YouTube and Facebook in regular intervals to encourage dialog and societal transformation. The hut serves as data collection tool to inform and direct the connected social media campaign. Although the data collection methods present challenges due to the stigma and sensitivity, the research goal is to ultimately influence behavior.

### **Future Directions: Online GBV**

Given recent activities of Namibians on social media, in particular Facebook, Instagram and WhatsApp, GBV seems to have gone online. For instance, compromising videos of intimate partners, mostly female, had been circulated on social media channels prompting a nation-wide police campaign to stop it. These videos were

posted in retaliation, jealousy or to humiliate victims. We will integrate researchers working on Online Child Protection as there exists instances of online sexual exploitation among Namibian teens. Social Media can also be used very positively to reinforce positive messages, build peer support communities and act as early alert tools for GBV.

### **Collaborators sought**

We are seeking collaborators beyond or inside our borders who can share experiences and help us in researching and developing solutions to our mammoth task in Namibia. We also experience challenges with the topic being very stigmatized, sensitive and regarded as a Social Science topic. This prevents many students and some fellow researchers in Computer Science from getting involved as it is seen as a 'soft topic'. Especially women students shy away from pursuing the topic in their academic programmes. They are however willing to contribute to the interventions outside of their official academic work.

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