

The first activities were carried out in September-December 2017. In September, UN-Habitat and the City of Johannesburg teamed up with Ericsson and Wits University to test a 'mixed reality' application for community participation as part of the upgrading of Eland Park in Braamfontein. Mixed reality is a new technical innovation which includes both virtual and augmented reality and allows you to experience digital objects in the "real world". If virtual reality is immersion in a completely digital environment and augmented reality is digital objects overlaid on a real-world view, mixed reality is the blending of real and virtual environments to create new types of experiences where physical and digital objects coexist and interact in real time. In the context of urban planning and design, this could mean virtual buildings being partly occluded by real buildings and trees, or vice versa, or having the asphalt

in a public space change to grass, or making some infrastructure transparent to be able to see behind it.

Over three days, students from nearby Rosebank College and Wits University worked with residents, passers-by and Faku'gesi Festival participants to use Minecraft to crowdsource and co-create design ideas to improve the park. Minecraft is an effective tool to enable non-professionals to quickly sketch out urban design ideas in 3D and present them to professionals and city authorities. The ideas from this workshop were varied and focused on providing safe access across the busy Bertha Street, pedestrianising Stiemens Street, increasing security and providing seating and activities for the hundreds of students who regularly use the space.

Once the participants finished designing in Minecraft, the Ericsson team exported their creations to a

mixed reality prototype application, building on a detailed 3D model of the public space. People could then go outside and, using special smartphones with 3D-sensors, view their Minecraft designs in real life, including walking around the digital objects out on the street as if they were physically present. An urban designer from Wits interpreted the needs and ideas that people expressed through the Minecraft process and designed a first 3D proposal for improving the site. This could also be viewed through the mixed reality platform.

In December, UN-Habitat was asked by the City to train City officials in the Block by Block methodology. A participatory process and public space mapping exercise in Diepsloot was also organised by UN-Habitat, the City of Johannesburg and Sticky Situations, an NGO specialising in citizen participation.

The capacity building support from UN-Habitat has been incredibly useful and is really shaping the City's processes of co-designing, building and implementing public open spaces across multiple departments. We are immensely grateful to UN-Habitat for these resources and support

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