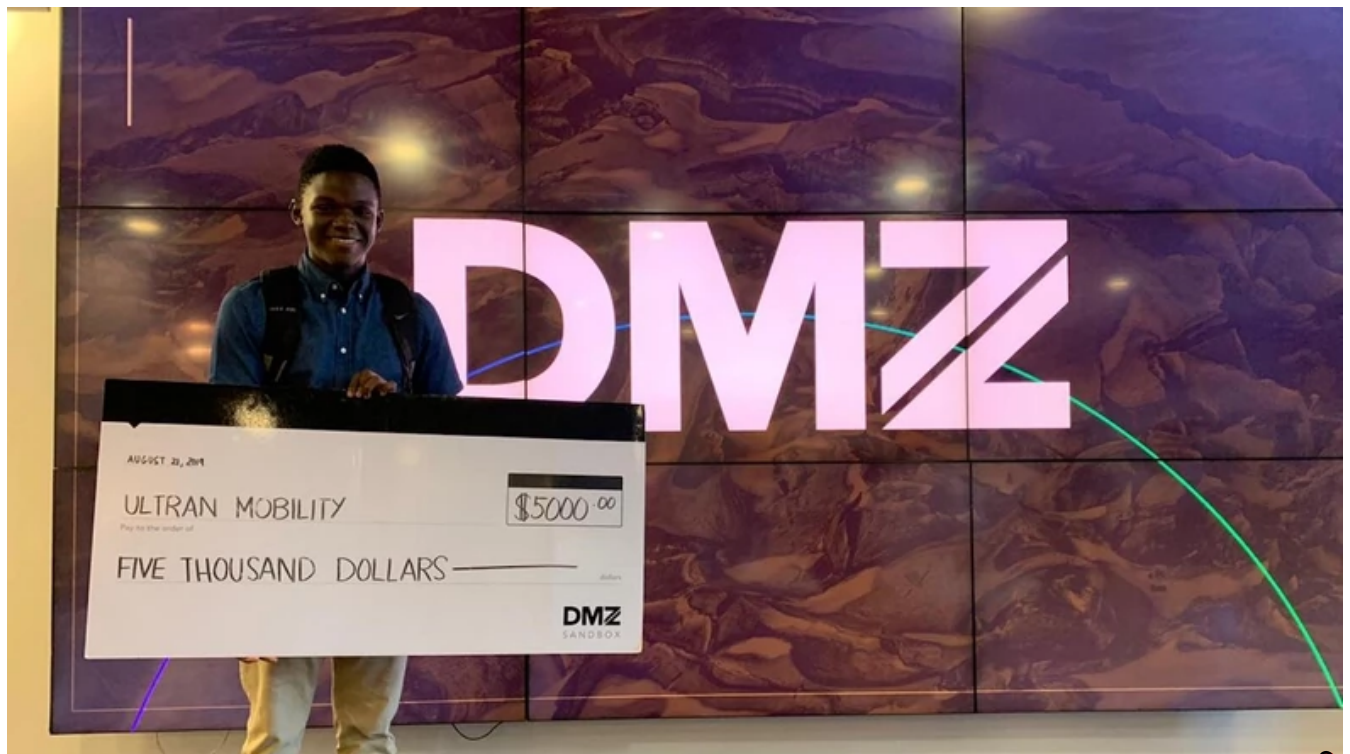


Business Insider Tech

Kenyan student, Raphael Mwachiti, wins \$5000 CAD after inventing white cane that uses technology to detect objects and then uses haptic feedback to alert the user

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Raphael Mwachiti, a student at the Aga Khan Academy, Mombasa, has won the Ryerson Sandbox Basecamp prize. (courtesy)

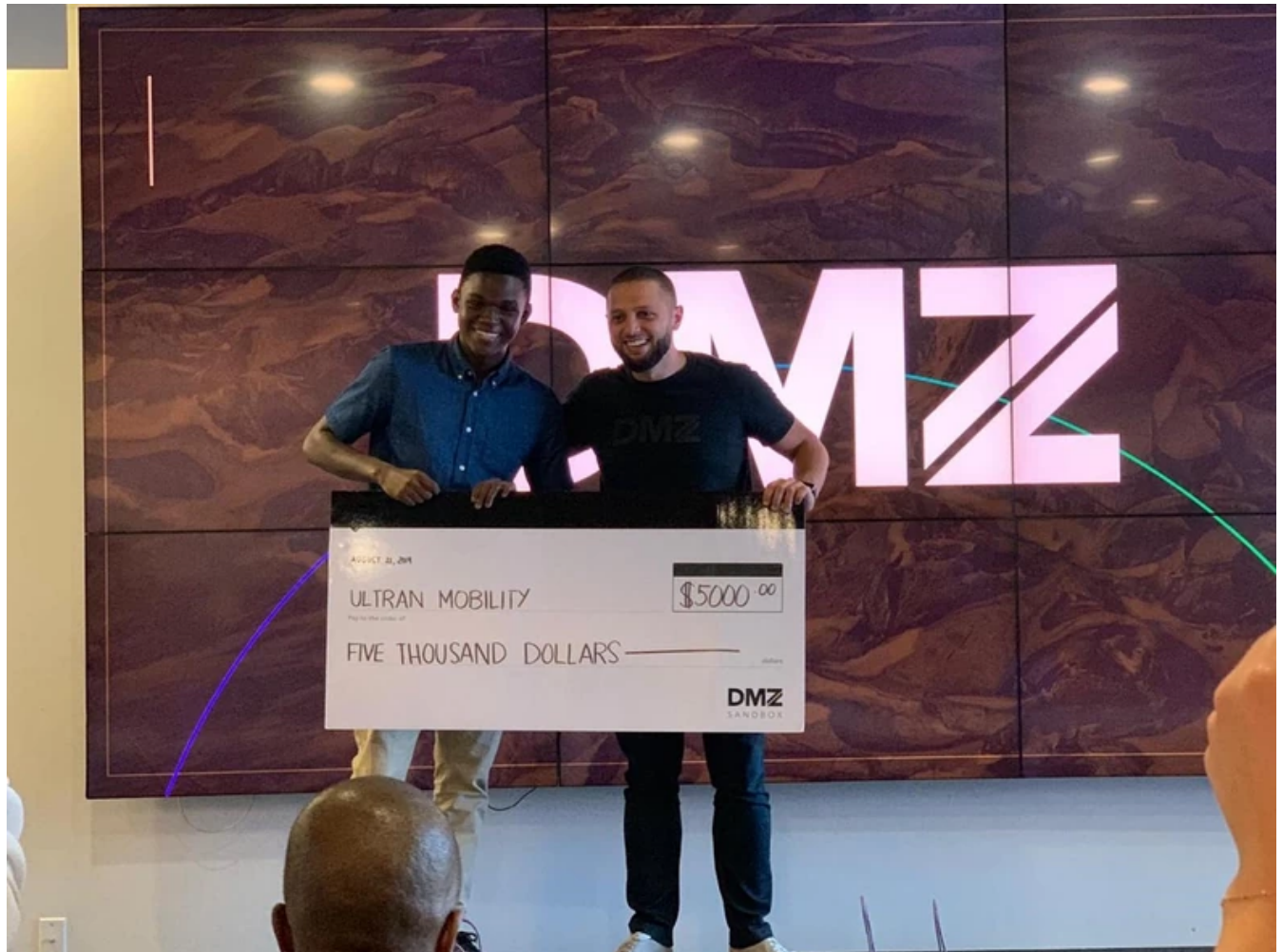


- Raphael Mwachiti, a student at the Aga Khan Academy, Mombasa, has won the Ryerson Sandbox Basecamp prize.
- The traditional white cane only assists people in telling them where the hazards are when the cane has already come across the hazard, and not before.
- Raphael created a solution that uses technology to detect objects within eight metres of the user. Once the object is detected, the device uses haptic feedback, or vibrations, as well as audio feedback to alert the user.

A Kenyan student has won a grant of Sh390,786.62 (\$5000 CAD Canadian Dollar) after he developed an ingenious solution to help visually impaired people.

Raphael Mwachiti, a student at the Aga Khan Academy, Mombasa, has won the [Ryerson Sandbox Basecamp](#) prize for his innovation to assist visually impaired people. Apart from the \$5000 cash prize, Mwachiti will also be offered specialist professional advice to help advance his start-up.

"I am filled with excitement for the adventure ahead of me," said Mwachiti after being declared the winner.



Raphael Mwachiti, a student at the Aga Khan Academy, Mombasa, has won the Ryerson Sandbox Basecamp prize. (courtesy)



Ryerson University, located in Toronto, Canada, runs an intensive boot camp for six weeks every year where Students are invited to submit their solutions to real life issues. The 2019 Basecamp had 27 students, some working in pairs and others working alone. There were 19 projects in total with three winners.

Also read: [25-year-old Kenyan invents smart gloves that convert sign language movements into audio speech](#)

Whilst participating in community service, Raphael noted that visually impaired people sometimes struggled with day-to-day living; the white cane that is traditionally used only assists people in telling them where the hazards are when the cane has already come across the hazard, and not before.

Why his invention stood out



White Cane. (Time and date)

Raphael created a solution that uses technology to detect objects within eight metres of the user. Once the object is detected, the device uses haptic feedback, or vibrations, as well as audio feedback to alert the user.

Ultran Mobility improves the quality of life directly in the community where Raphael lives, a fact that made his project stand out. Raphael has cultivated relationships in this community and built a team of advisors who he says are “always willing to help when I get stuck”.



It was also the price point and accessibility of the device that set Raphael’s product apart.