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## VENu: The Virtual Environment for Neutrinos

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The Virtual Environment for Neutrinos (VENu) is a virtual reality-based visualization of the MicroBooNE detector. MicroBooNE is a liquid-argon-based neutrino experiment, which is currently operating in Fermilab's Booster neutrino beam.

The new VENu smartphone app provides informative explanations about neutrinos and uses real MicroBooNE neutrino data that can be visualized inside a virtual representation of the MicroBooNE detector. Available for both iOS and Android, the VENu app can be downloaded for free from the Apple and Google marketplaces. The app enables users to immerse themselves inside the MicroBooNE particle detector and to see particle tracks inside. This can be done in Virtual Reality mode, where the users can pair their smartphone with any consumer virtual reality headset and see the detector in 3D. To encourage learning in a fun environment, a game is also available. The game guides users to learn about neutrinos and how to detect them. They can also try to "catch" neutrinos themselves in 3D mode. The app is currently being pursued for a QuarkNet neutrino master class and outreach events at several universities and labs worldwide.

**Primary author:** Mr DEL TUTTO, Marco (University of Oxford)

**Presenter:** Mr DEL TUTTO, Marco (University of Oxford)

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