Evaluating Cardiovascular Surgical Planning in Mobile Augmented Reality

CardiacAR

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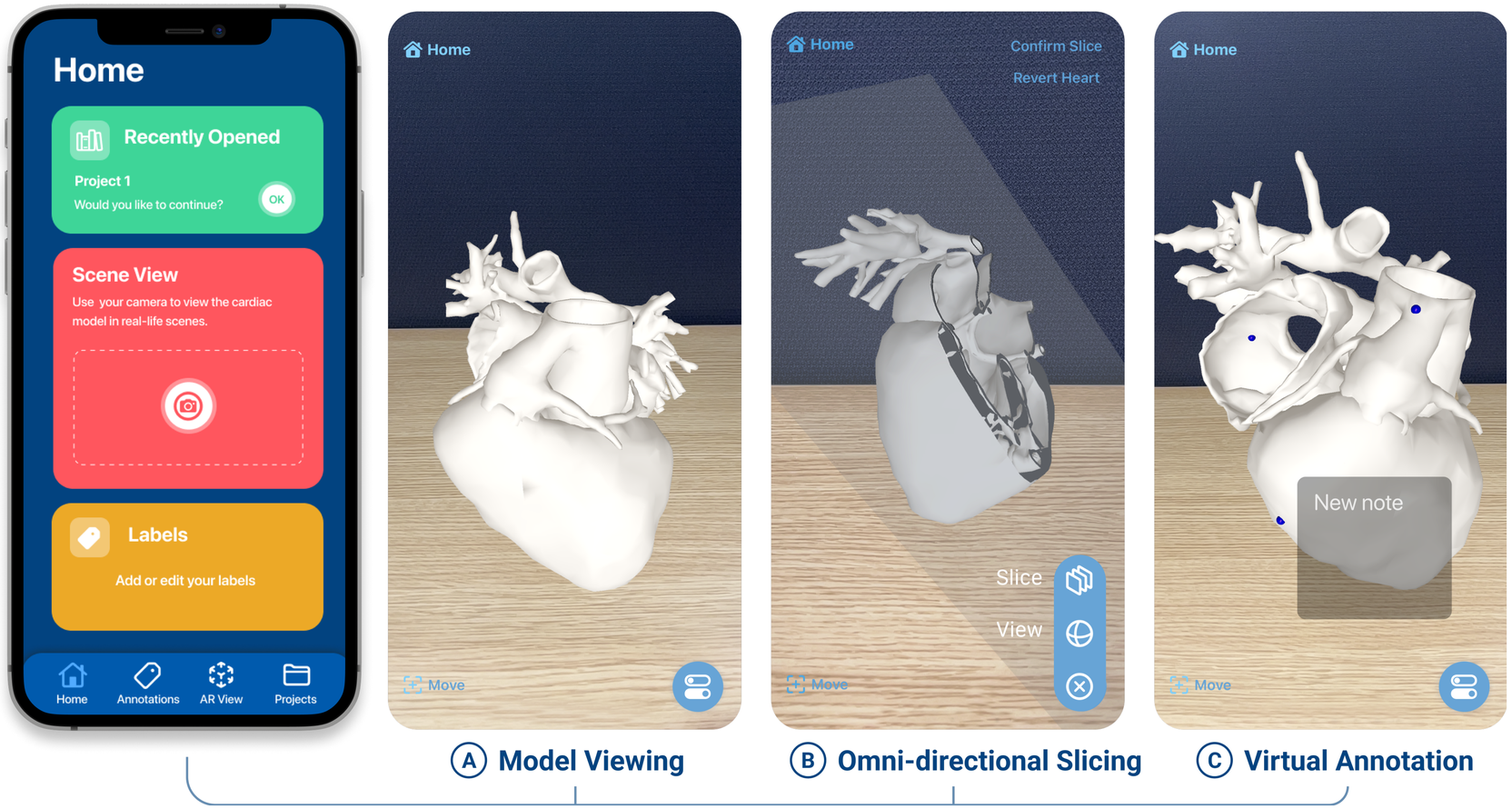
We present the **first-of-its-kind** evaluation of mobile AR surgical planning tool (CardiacAR) with medical experts, **4 cardiothoracic surgeons and 2 cardiologists**, from Children's Healthcare of Atlanta Heart Center.

Open-source at github.com/poloclub/CardiacAR



Key Findings

- **Omni-directional slicing** helps surgeons more easily visualize cardiovascular anatomy
- **Mobile** app facilitates **portability**
- **Easy model import** supports patient-specific analysis
- *Model Viewing* and *Annotation* helps in **practical scenarios** to label and demarcate key regions

Technological Discoveries

1. **Innovative real-time omni-directional** slicing, including *preview slicing* which helps surgeons visualize the slicing plane and highlighted cross section surfaces
2. **Streamlining** deployment process and increasing **accessibility** of the application through asynchronous testing and feedback on TestFlight