InSight AR. Virtual sculptures presented in a public exhibition.

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InSight AR is a site-specific Augmented Reality project and mobile phone app produced for the popular Sculptures by the Sea Bondi exhibition, to be held in Sydney Australia in 2021. It forms uncanny relations between virtual sculptures, visitors, the environment and the art on site. The project is comprised of three parts: an outdoor work using AR plane detection and geo-location, AR image and spatial tracking for an indoor exhibit and a 3D map of the coastal walk, also presented in AR. The work is designed to be playful, fun and it encourages its viewers to share their experience on social media. At the same time, the audience has the opportunity to learn more about a selection of iconic classical sculptures and get a better understanding of the medium AR and its variants.

Fig. 1.   *InSight AR app feature image,. Outside sculptures (l) and Sculpture Inside exhibit (r).*

I.   INTRODUCTION

Sculpture by the Sea Bondi is an annual outdoor exhibition, transforming a 2km coastal walk into a sculpture park with over 100 works by artists from across the world. This year marks the first time the jury accepted a work without a physical manifestation, to be experienced solely in Augmented Reality. AR superimposes a computer-generated image or object on a user's view of the real-world. The encounter with the virtual sculptures is interactive and explorative. Just as in the real-world, visitors can circumambulate a sculpture to examine it from all sides or get closer to reveal more detail.

II.   DESIGN AND IMPLEMENTATION

The 3D sculptures in *InSight AR* are presented ghost-like by ephasising the shading of the rim while the body remains transparent. A dark outline adds contrast (Fig. 1,2). The figure appear to have volume and at the same time, frame the surrounding and allow visitors to pose with the models. Touch gestures enable the viewer to swap objects and reposition or scale the figures in relation to the real world. *InSide AR* (Fig.1-r) utilises image tracking to align a group of virtual sculptures on a physical exhibition plinth. A slight shake of the device or tap on the screen causes the virtual platform to momentarily vibrate, just enough to agitate the models and some fall over each other or drop. This behaviour is non-deterministic, utilising physics based procedural animation. The project is realised in Unity 3D. This platform was chosen due to the flexibility in regards to procedural animation, UI design, custom materials and shaders and cross-platform publishing.

Fig. 2.   *Translucent sculpture with outline for contrast, screengrab (l). [Scan the QR code or click here to download InSight AR for iOS or Android](#).*

III.   CONCLUSION

The project has not yet been experienced by the public at large, so no in-depth analysis was conducted. It remains to be seen, how many of the average 400,000 annual visitors will actually download and play with the app. It will be interesting to observe and talk to visitors about their experience to inform possible future iterations of the project.

IV.   REFERENCES

Kuchelmeister, V. 2020. InSight AR project page. Accessed Oct 30, 2020.
https://kuchelmeister.net/portfolio/insight-ar/