

# Social Engagement in Layers of History: An XR experience of the May 4<sup>th</sup> Shootings

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The purpose of this project was to build an augmented reality (AR) application to transport visitors back to May of 1970 to commemorate the Kent State shootings. AR puts viewers in the shoes of historical visitors to Kent State's campus, showing them important hotspots as they would have appeared 50 years ago. This talk will describe the AR project, the need to move to remote VR because of COVID-19, and the development of an open-source platform and editor others could use to replicate placed-based augmented and virtual reality tours.

## I. BACKGROUND

On May 4, 1970, approximately 2,000-3,000 students and spectators gathered in the center of Kent State's campus to protest the Vietnam War and the presence of more than 750 members of the Ohio National Guard on campus. Just after noon, guardsmen turned in unison and fired 67 shots over a period of 13 seconds, killing four students and wounding nine others. It can be argued that this event changed public opinion about the Vietnam War, governmental violence, and student movements (see Grace, 2016). Now visitors can take tours and see landmarks; however, some feel disconnected—particularly if they weren't on the campus at that time or were not alive when the event occurred. AR, however, has been used successfully to support humanities projects and the development of value in such historical events (see Freina & Ott, 2015).

## II. MAY4TH XR

### A. The Initial Prototype

The AR app allows users to travel back in time to May 1-4, 1970. Visitors to campus visit 7 physical hotspots. When they arrive at the hotspot, they lift their phone and are presented with picture overlays on live video that show them what it looked like in 1970 (see Figure 1). They can see multiple pictures, hear audio descriptions and personal stories, and they are asked guiding questions about past and present issues.



Fig. 1. May4thXR Hotspot of the Victory Bell.

### B. The Impact of COVID-19

When COVID-19 happened, Kent State was deep in planning for the 50<sup>th</sup> commemoration. Closing the campus could have meant closing commemoration activities. However, the app was adapted to include a VR alternative experience; visitors can now engage in a virtual tour from anywhere in the world.

### C. GLARE

In addition to building the use case, the team developed an AR/VR platform named GLARE (GeoLocated Augmented Reality Editor). GLARE is open-sourced and can be used to provide support for other geo-based projects.

## III. CONCLUSION

The goal of this talk is threefold. First, we will present a short demo of the application. We will then discuss outcomes of its use. The talk will conclude with a discussion of GLARE and its impact on other projects.

## IV. ACKNOWLEDGMENTS

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## V. REFERENCES

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