

16 Squares: A History of Blacksburg

TEAM MEMBERS

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INTRODUCTION

The 16 squares project explores one of the first planned communities in Virginia in an interactive AR setup. The project aims at representing various time periods and exploring the effect of history on Blacksburg.

Existing work on 16 Squares is mainly projection based. We are planning to model this project in AR and add more interactivity to it by enabling the user to look at the history and architectural model of every building. The user does not have to reel through all the factual information of every component of the 16 squares set up and can interact with standalone components.

Another feature that we would like to include in our project is to show the user the present state of the block being viewed to give an insight into how the place has changed over the years.

RESEARCH QUESTIONS TO BE ADDRESSED

Some of the research questions that will be addressed in this project are:

- How can augmented reality be used to benefit the fields of education, history, and architecture?
- How to efficiently generate AR models at a fixed location in the real world?
- How to deliver factual information in AR whilst making sure that it does not strain the user?

- What are the best techniques that can be used to engage and maintain the user's interest while using our application?

LIST OF PRELIMINARY HYPOTHESIS

- One of the ideas we had was to use a QR code or other tagging mechanism to register a model to a fixed block in the real world.
- This project could be used in classrooms, museums and other points of cultural interest.
- We could potentially show 3D blueprints of the buildings as an alternate view.

FACILITIES, HARDWARE AND SOFTWARE

We are planning on building this project in an Android environment. We will be using either AR Core or Unity, depending on which framework suits our needs best.

TYPE OF USER STUDY

We would like to invite educators, historians and students to be a part of this study. We want to gather feedback on how historically relevant the project is and how beneficial it is for the students.

We would also like to include students or professionals in the field of architecture and design to get feedback on the accuracy of the AR models.

POTENTIAL IMPACT/ CONTRIBUTIONS OF THE PROJECT

- The project can be used for educational purposes to make classroom teaching more interactive and engaging
- This project could serve as a means to attract tourism in Blacksburg.
- Similar applications can be developed for museums and art galleries.