

Abstract:

Creating entertaining and educational books not only requires providing visually stimulating content but also means for students to interact, create, and express themselves. In this paper we present a new type of mixed-reality book experience, which augments an educational coloring book with user-generated three- dimensional content.

Introduction:

The Magic Painting is an augmented reality coloring book App in which children color characters in a printed coloring book and examine their work using a mobile device. The drawing is detected and tracked and augmented with an animated 3-D version of the character textured according to the child's coloring.

Purpose:

Disney is developing augmented reality coloring books to better the brand to young digital natives. Although coloring books are a perfect way for a child to express their imagination and creativity, children seem to be less engaged in them because of the proliferation of digital device.

Modules:

1. Sign in.
2. Character.
3. AR camera.
4. Augmented 3D model.
5. Exit.

Advantages:

By bringing the child into the book with augmented reality, you allow the child to fully understand real world applications to those lessons because they got to participate in the actions of the character. AR has the power to strengthen the images, text, and the overall message of children's books. With AR, the child learns with the characters. That is what makes it such a strong addition to children's books.

Disadvantages:

A significant disadvantage of augmented reality is that it requires the collection, generation, and analysis of large sets of data. Thus, similar to the drawbacks of Big Data, it is also haunted by issues concerning privacy and security. Issues About Intrusiveness .

Feasibility Study:

Creating entertaining and educational books not only requires providing visually stimulating content but also means for students to interact, create, and express themselves. Present a new type of mixed-reality book experience, which augments an educational coloring book with user generated three dimensional content. In particular, we introduce a new technique to engage users in actively creating AR book content in real time using a coloring book metaphor. In this first prototype, users can color the pages of the book, and the system automatically recognizes the pages and the various colors used by the users, and directly maps the colored end results to virtual pop-up scenes and 3D models. This system is based on natural feature tracking and image processing techniques that can be easily exploited for other AR publishing applications. Objective: Coloring books capture the imagination of children and provide them with one of their earliest opportunities for creative expression.

Project Catagory:

Mobile app Application.

Use Case Diagram:

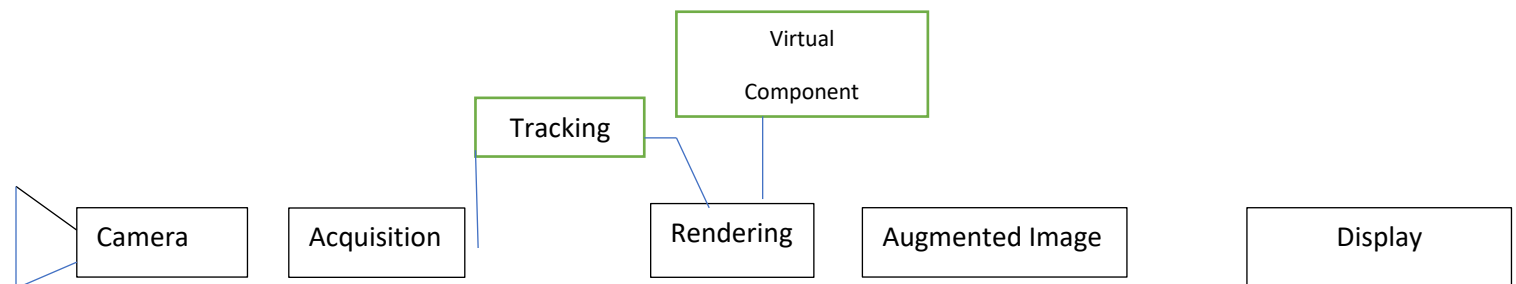
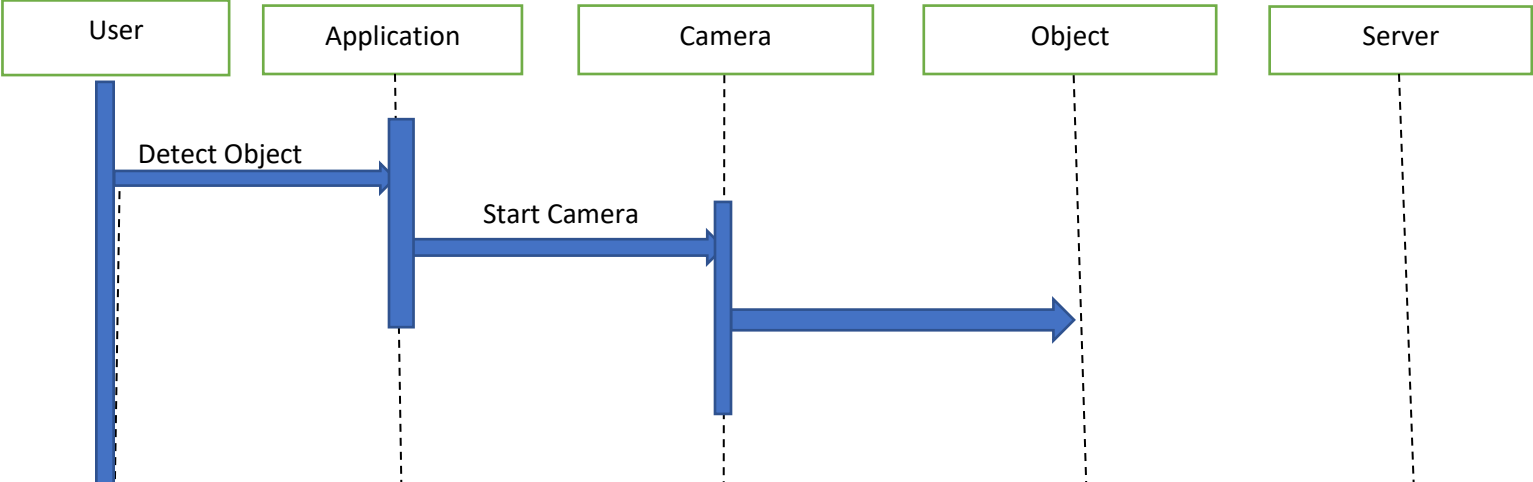


Figure: Use-Case Diagram

Sequence Diagram:



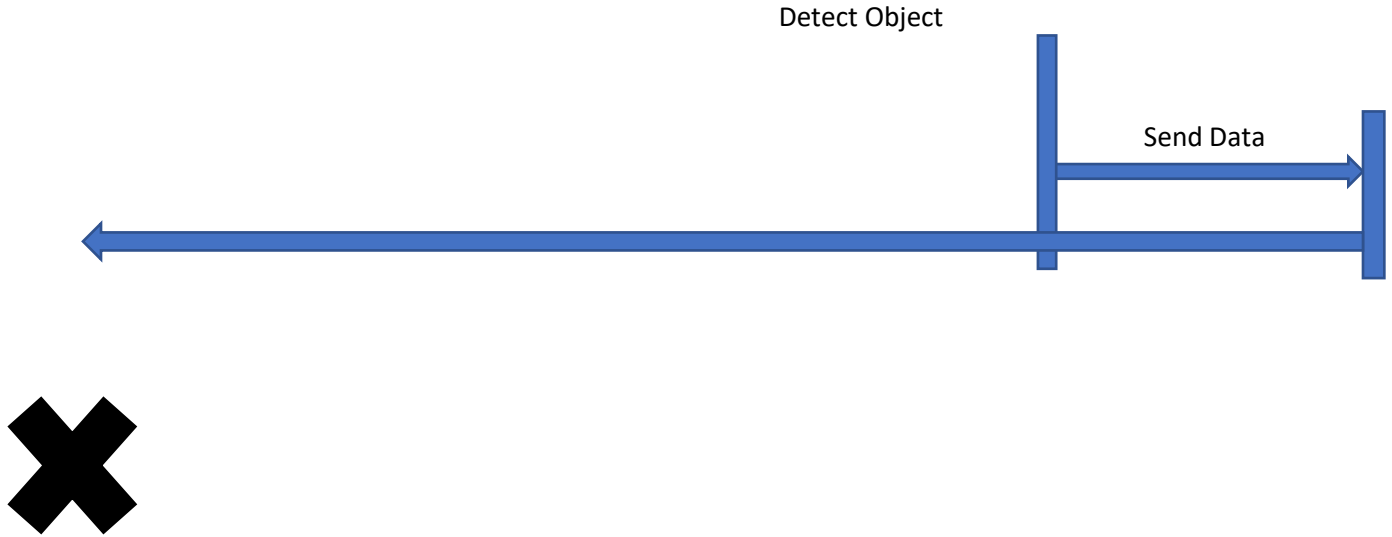
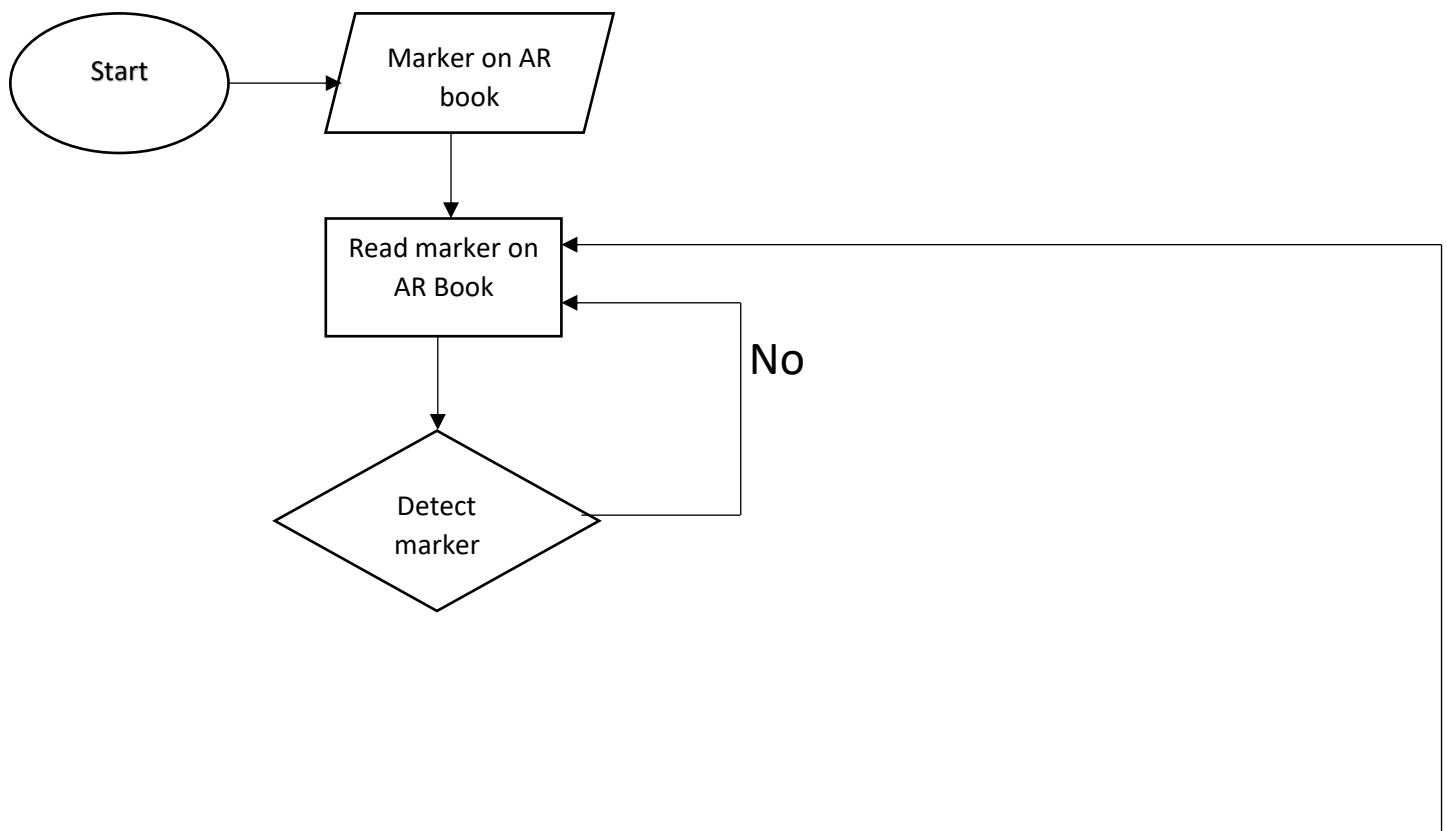


Figure: Sequence Diagram

Data Flow Diagram (DFD) :



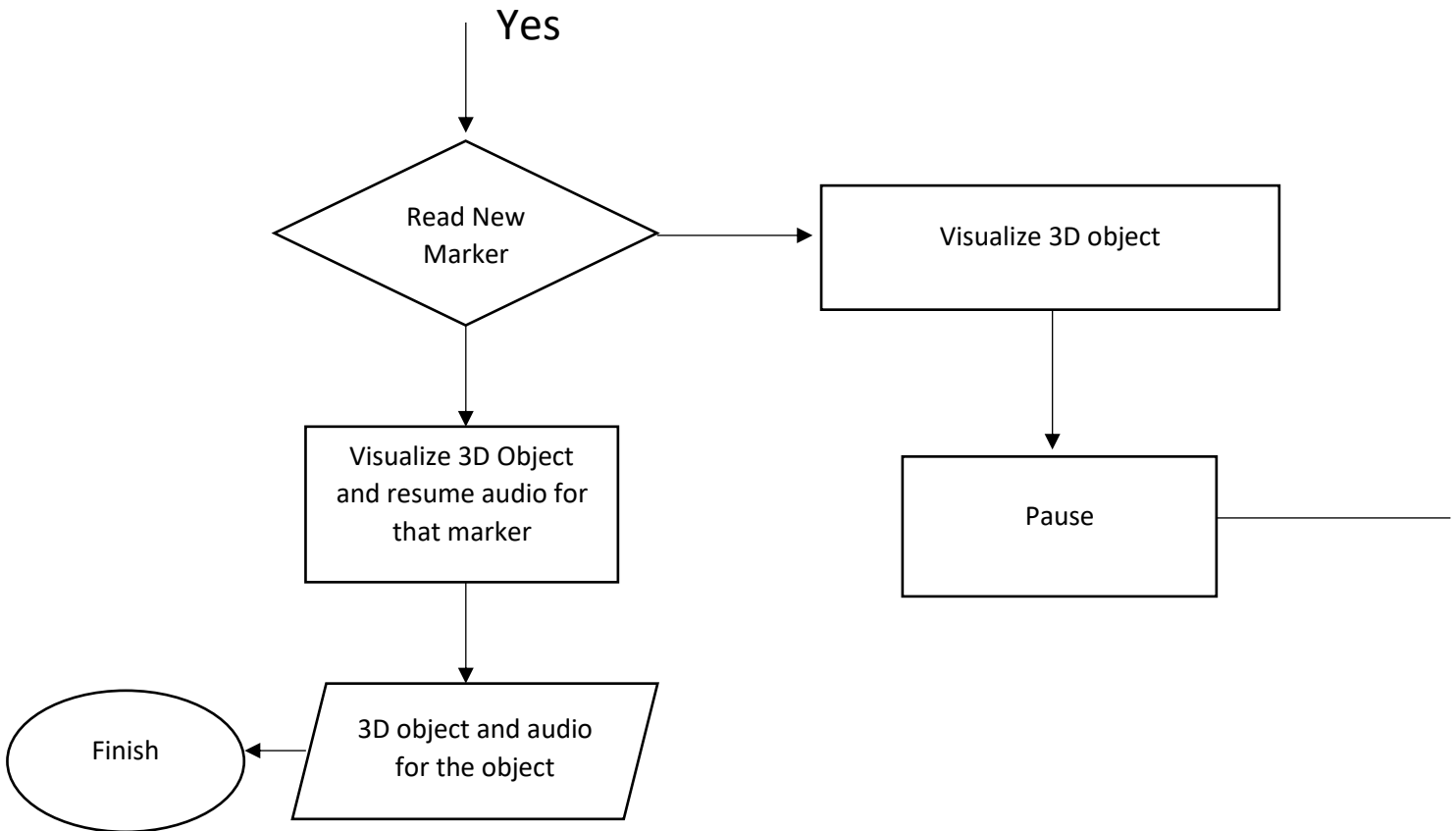


Figure: Data Flow Diagram

Entity Relationship Diagram:

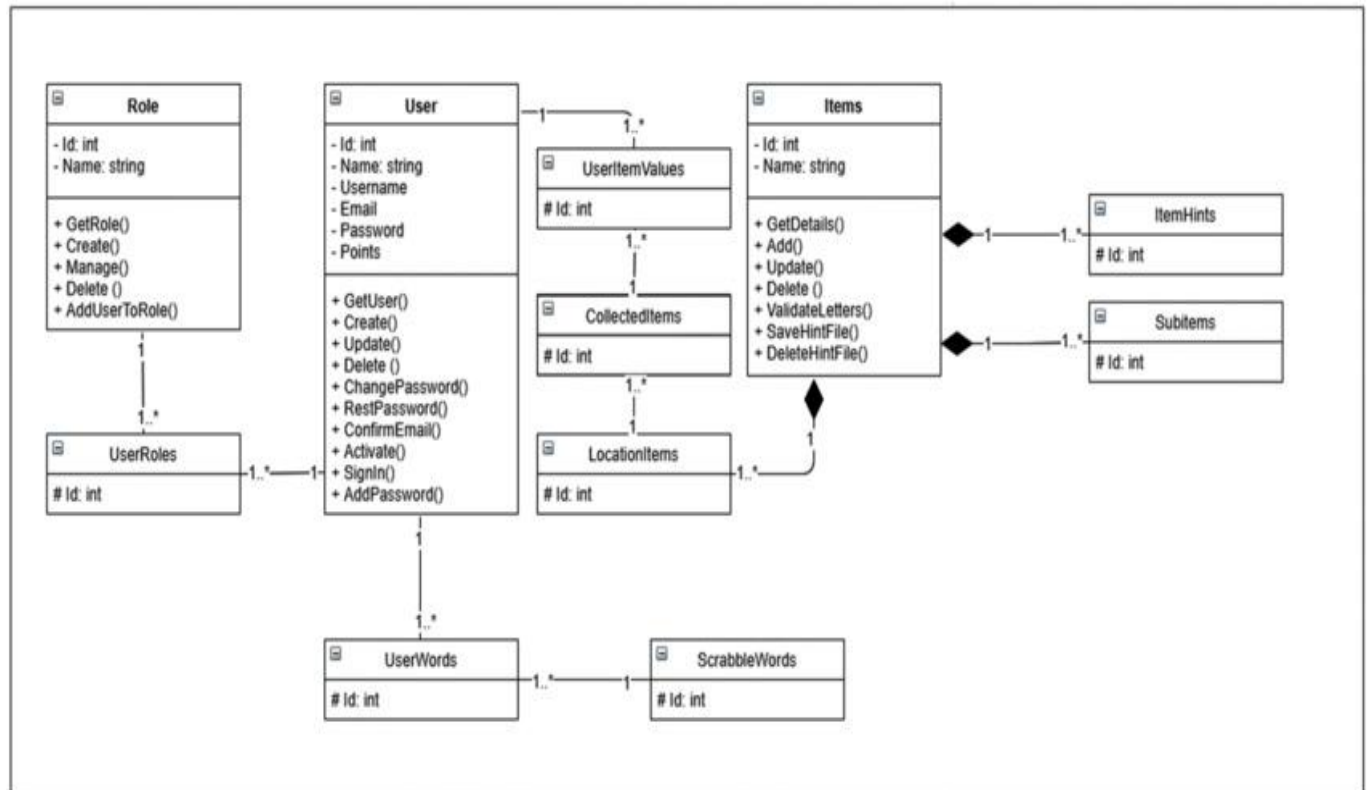
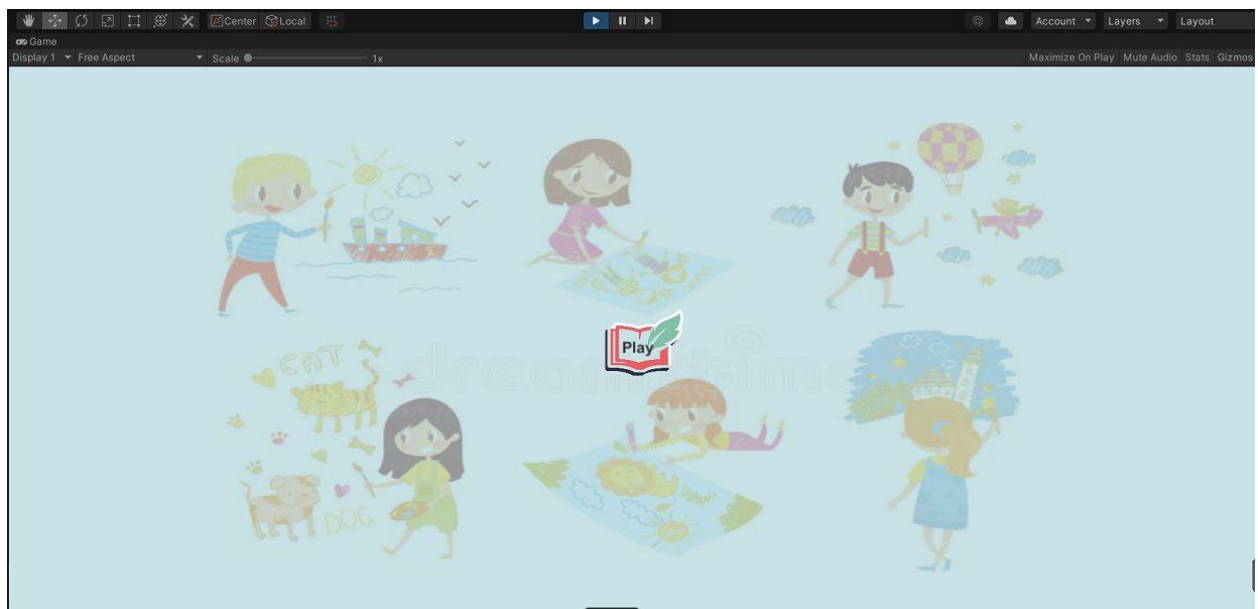
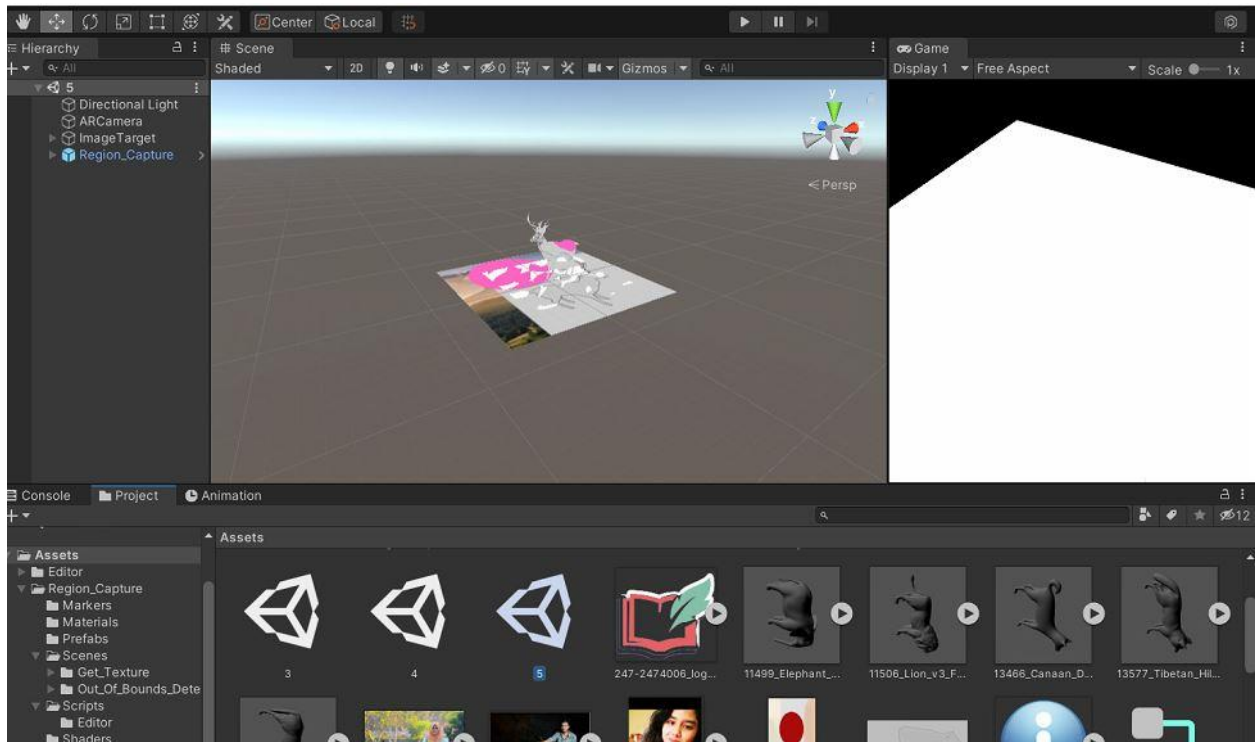
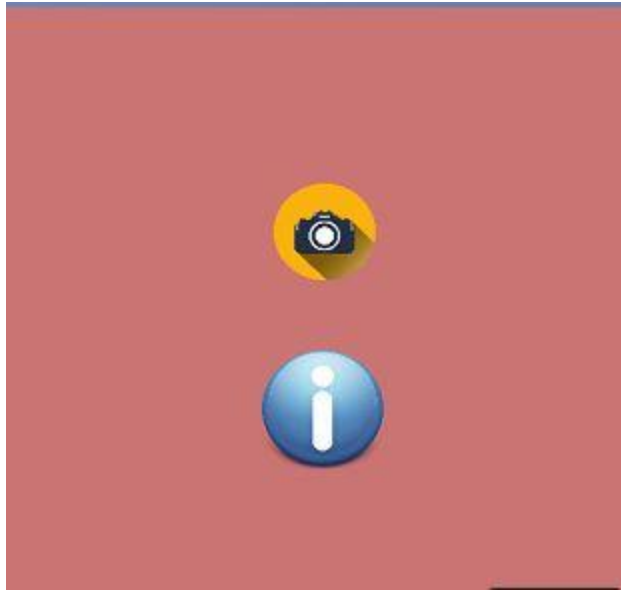


Figure: ER Diagram

User Interface Snapshots:







Future Scope the AR color book:

In this paper, we describe an AR coloring book with a transitional user interface. It comprises a paper book and a smart phone application. The

proposed AR coloring book enables the user to enjoy content by switching between real world, augmented reality, virtual reality, and networked virtual reality. Findings: All worlds are seamlessly connected to each other, thereby enabling the users to the same content with different modality and visualization ways. To evaluate our proposed idea, we developed the PlayingHouse, which is a transitional user interface AR coloring book. Improvements: We believe our work will lead to the popularization of AR coloring books in the future.

Conclusion:

In this work we present a new experience utilizing augmented reality enhanced books. Using an educational coloring book example, users are able to color in the pages, and these pages are then recognized by the system and used to produce three dimensional scenes and textured models reflecting the artwork created by the users.

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