Augmented Reality

SAFRAAN

Heritage in your hands

PROJECT BY
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AUGMENTED REALITY

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Definition

- Virtual elements **enhance** the physical environment.
- The real world is **enriched** with further information.
- **Digital information** can be text, images, video, sound or GPS data

Future

- Develop new features to **overcome** latest effective challenges.
- Open doors for business opportunities.

APPLICATIONS OF AR

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MARKETING

AUTOMOTIVE

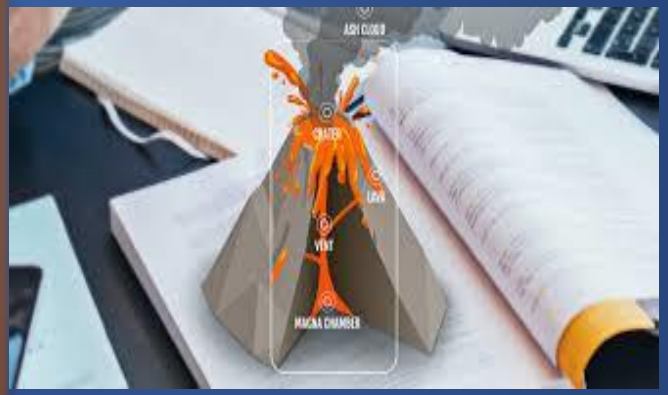
BUSSINESS

REAL ESTATE

MANUFACTURING

RETAIL

TOURISM



EDUCATION

VISION AND MISSION

- The vision is to enable the customers to discover more than possible and experience new locations while gaining knowledge and having fun.

- The mission is to enable the customer to discover more in one visit in a convenient and fun way.

INTRODUCTION

People want to **visit** and **move** in the city or countryside.

If only a few people can be **provided** with a service **at once** (to experience a complex and interactive room scale scenario), the tourist needs to book an **appointment**. This is an annoyance since the whole day or trip must be **scheduled** around this appointment.

For tourism an important aspect must be taken into account:

How many users can be served at once?

IF SAFRAAN IS NOT THERE...!!

HOW SAFRAAN WORKS?

To overcome above aspect *SAFRAAN provides a virtual guide* which serve many people at the same time.

The tourist can see a particular cultural heritage with all labels, for example: the history, architecture and art or for a city its food, fauna/flora and top 10 things to see.

SOFTWARE REQUIREMENT SPECIFICATION

Provide detailed information

Camera is used to identify markers

The information about spot is displayed in the camera screen.

A database is used to match the marker detected against the defined markers. Match found, fetch the relevant data. Else, the marker is ignored.

Magnetometer used to enable location based AR.

Accelerometer and gyroscope used for motion tracking.

HARDWARE REQUIREMENTS

- A computer with at least

  RAM:4GB

  Memory:20MB

- An Android device having

  Android version: 5.1.1 or above

  Magnetometer

  Accelerometer

  Gyroscope

  For Better features of AR , a phone with higher level API(>28) is required.

SOFTWARE REQUIREMENTS

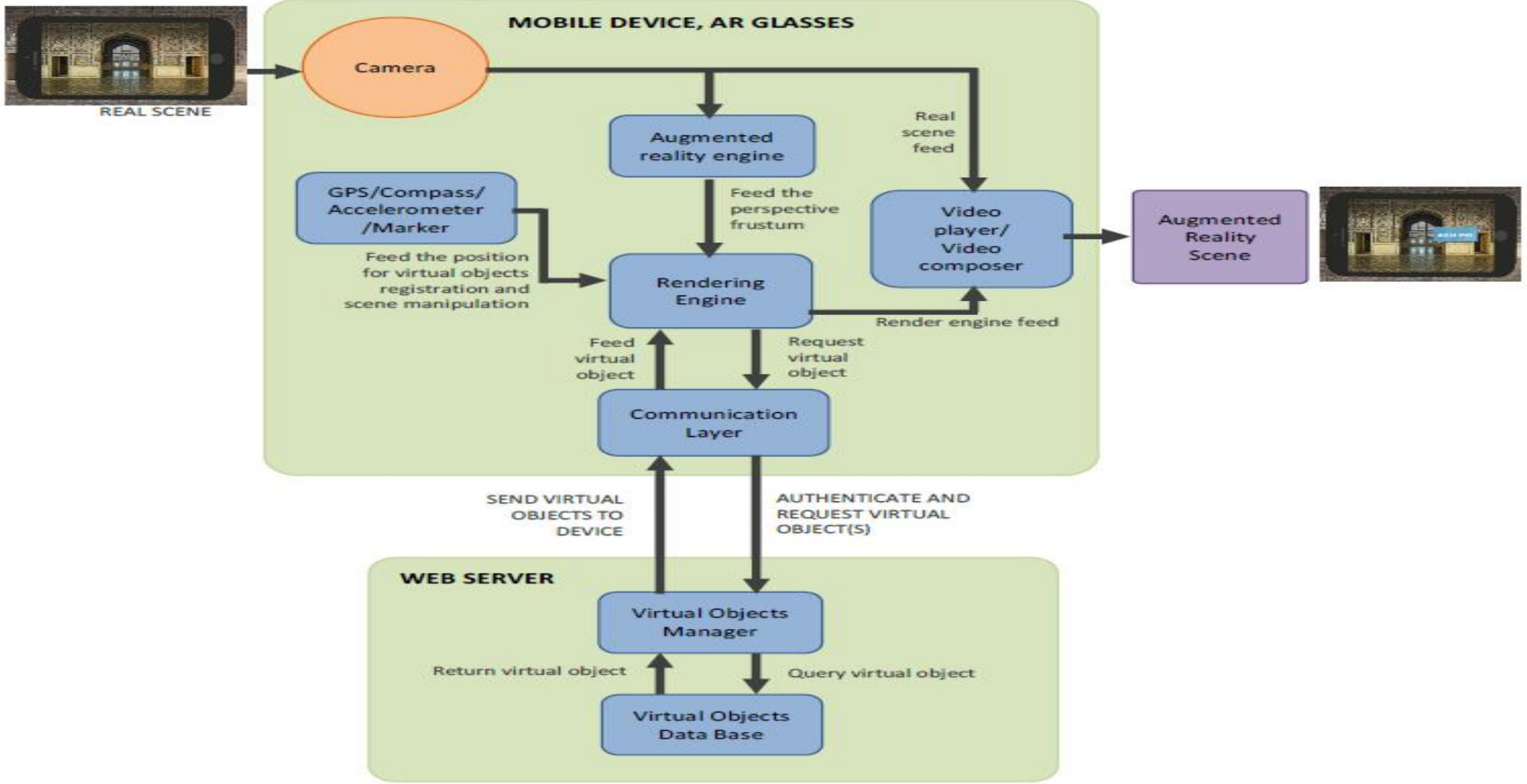
Customer/Client

- Internet connectivity
- Access to camera.
- Access to storage.
- Access to location

Database Management System

- Internet connection
- OpenGL ES
- AR Core
- Wikitude Studio
- MapBox
- Google Maps API

WORKING OF AR



FUNCTIONAL REQUIREMENTS

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- Creating, Moving and Placing Objects
- Privacy
- Searching
- Grouping Virtual Components
- Un-Interrupted Work
- Changing Properties
- User Interface
- Relocating Objects

NON FUNCTIONAL REQUIREMENTS

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- User-friendly
- Correctness
- Response Time
- Correct in Place Alignment of Virtual Objects
- Real-time Augmentation
- Informative data

IMPLEMENTATION

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Software

- Scan for Marker.
- Retrieve the content linked with the matched marker.
- Display the retrieved content.

Hardware

- Device camera scans the Marker.
- The associated content is displayed on the screen of the above device.

SYSTEM TESTING

The more sophisticated and futuristic the software, the more extensive the testing needs to be.

Deals with reality so closely that many real-world issues and complicate testing.

Paying attention to the weakest points of AR apps and ensuring wide-scale device coverage is a good start

for testers to assure the impeccable quality of an AR app.

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SCREENSHOTS OF APPLICATION

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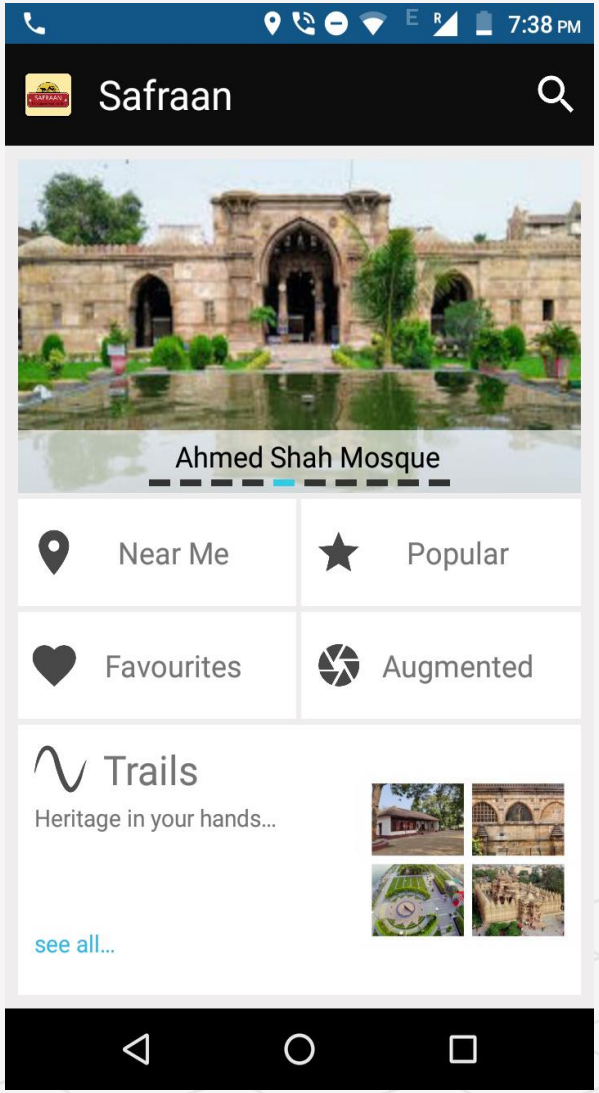

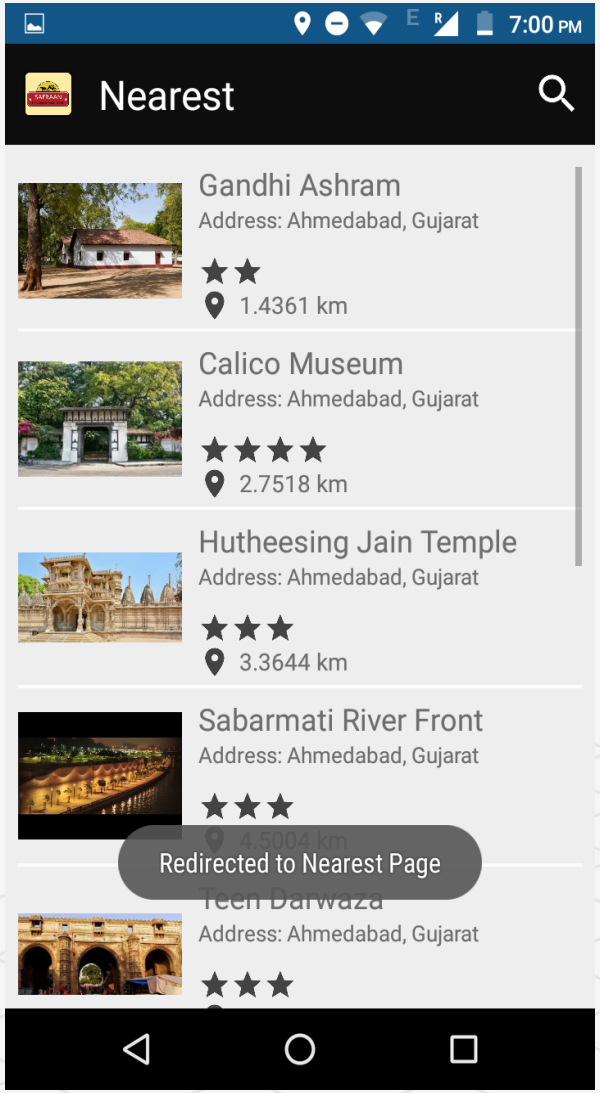

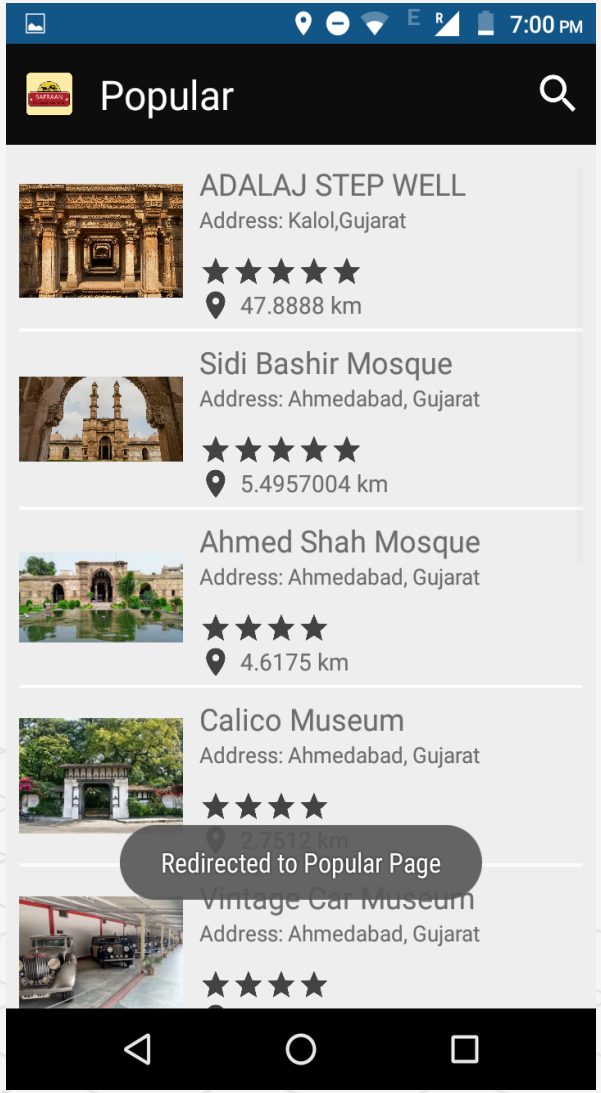

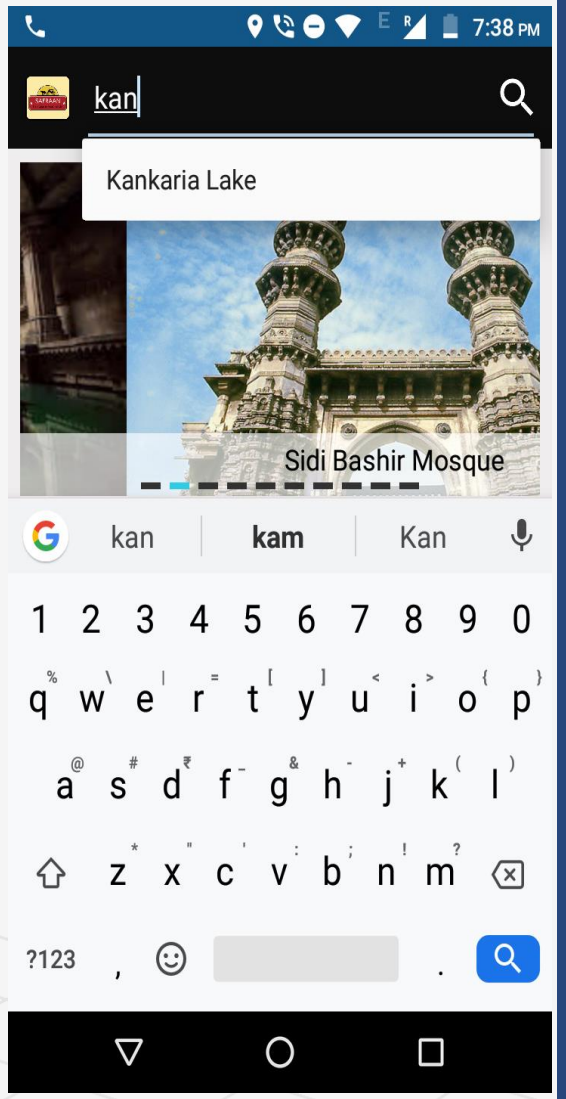

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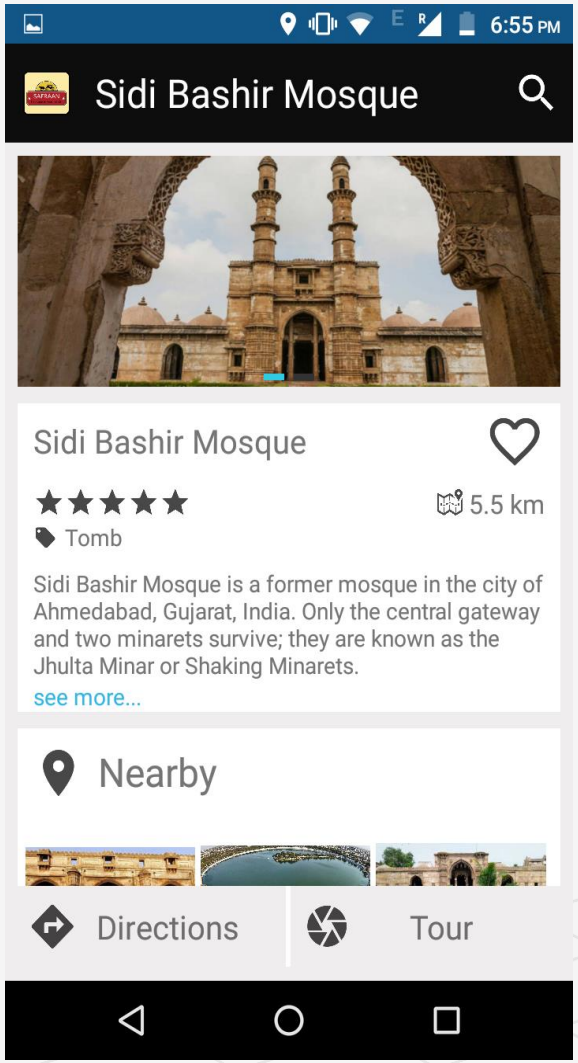

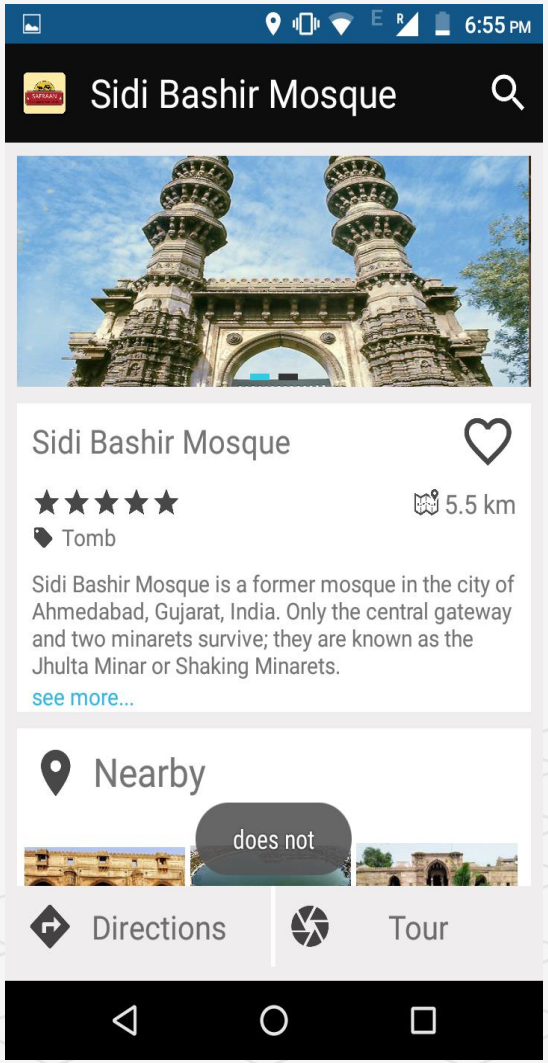

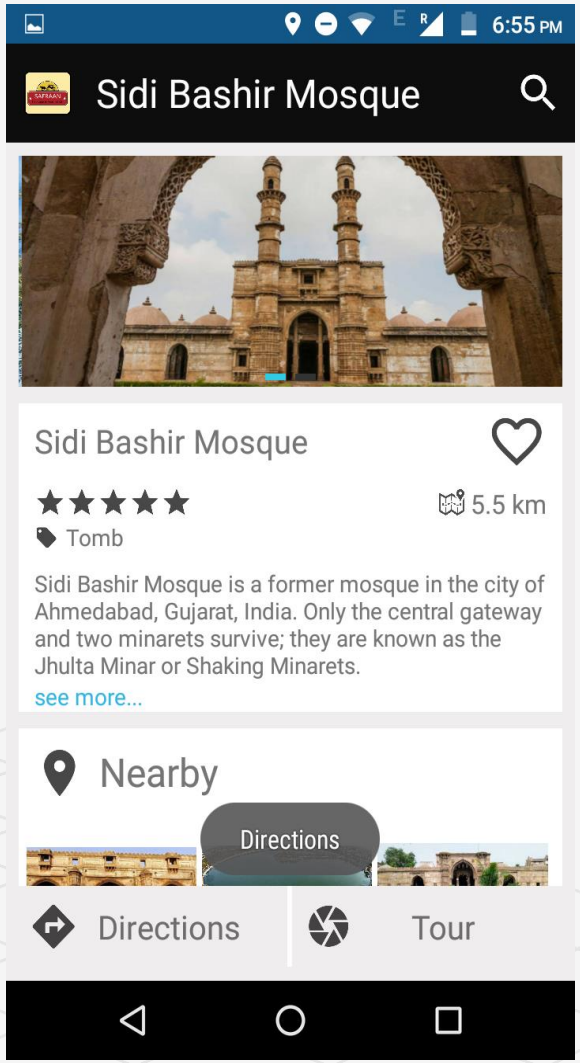

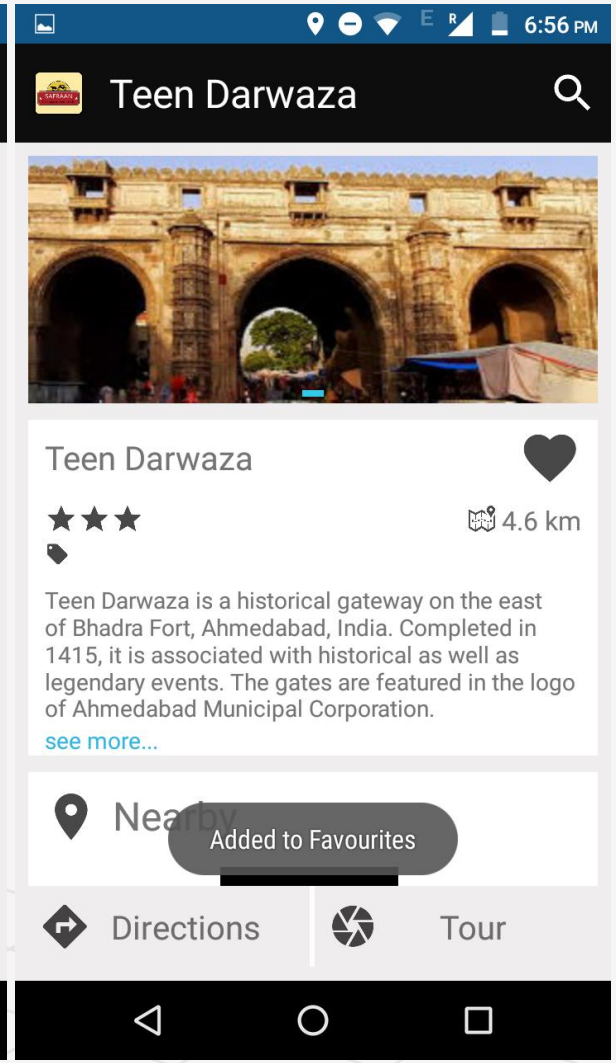

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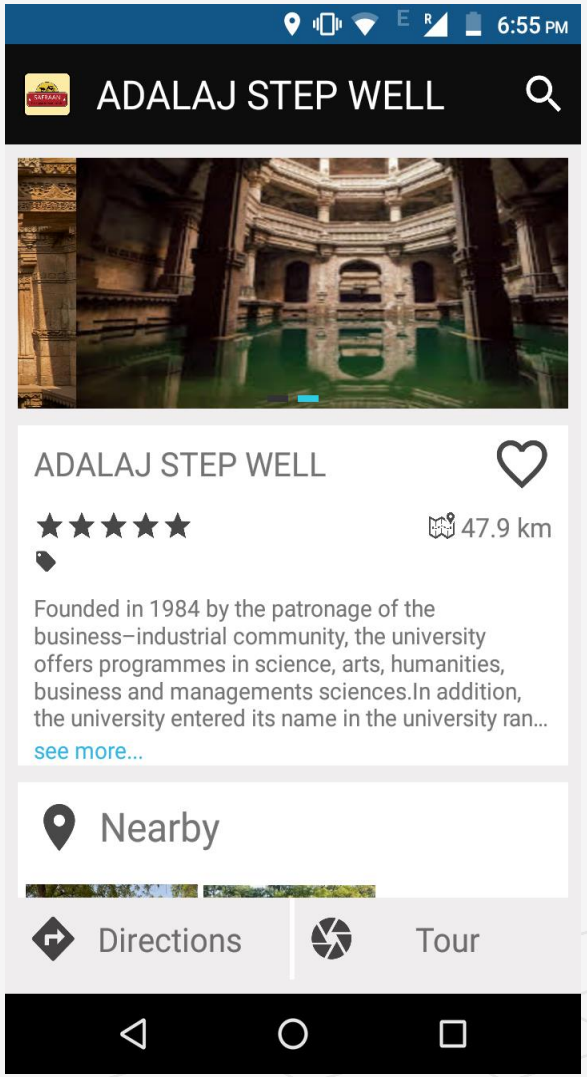

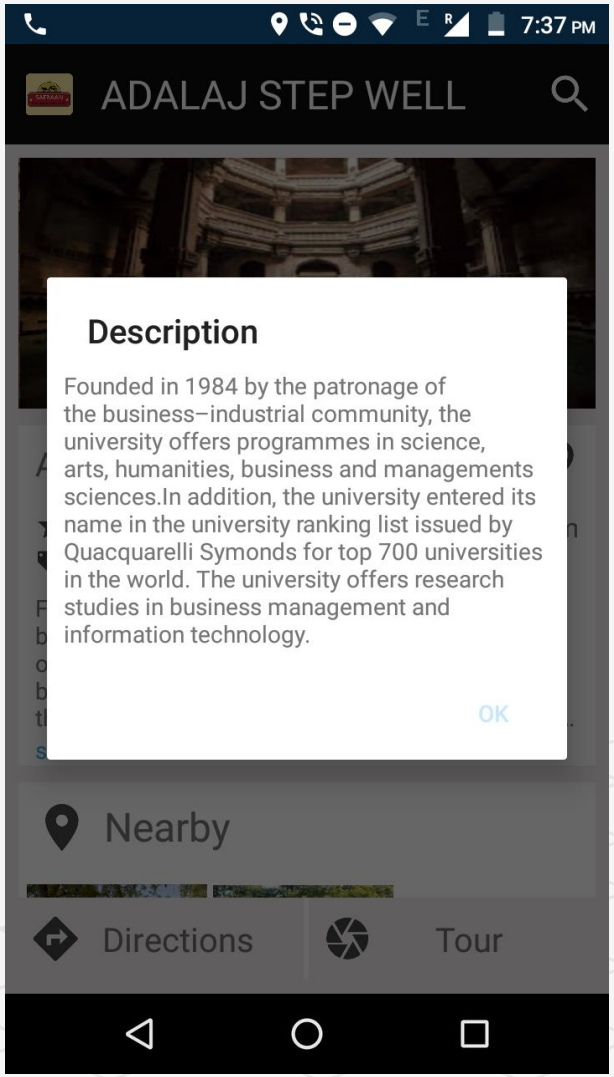

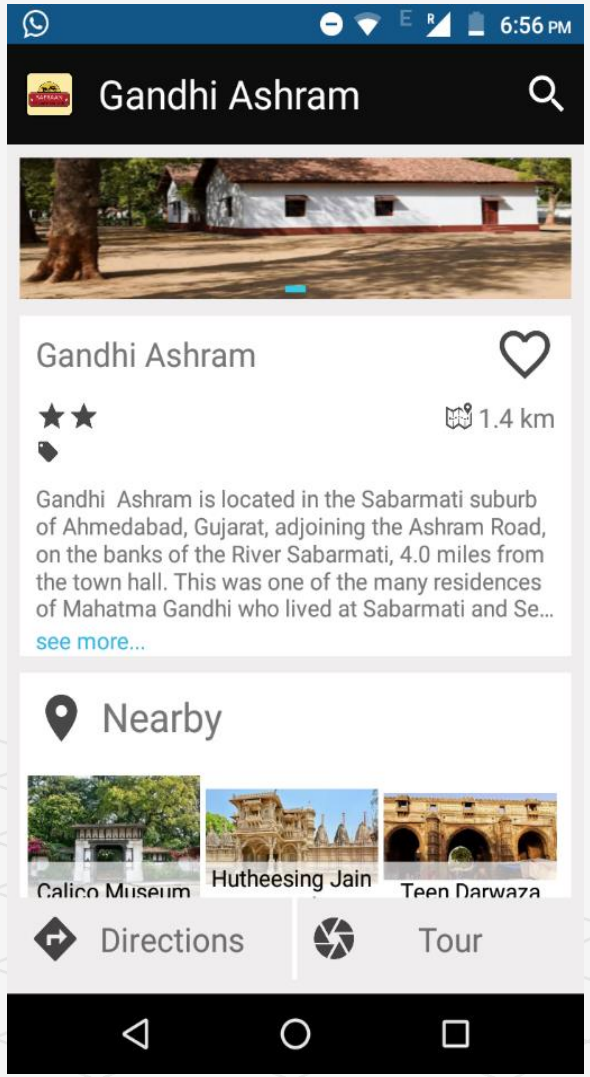

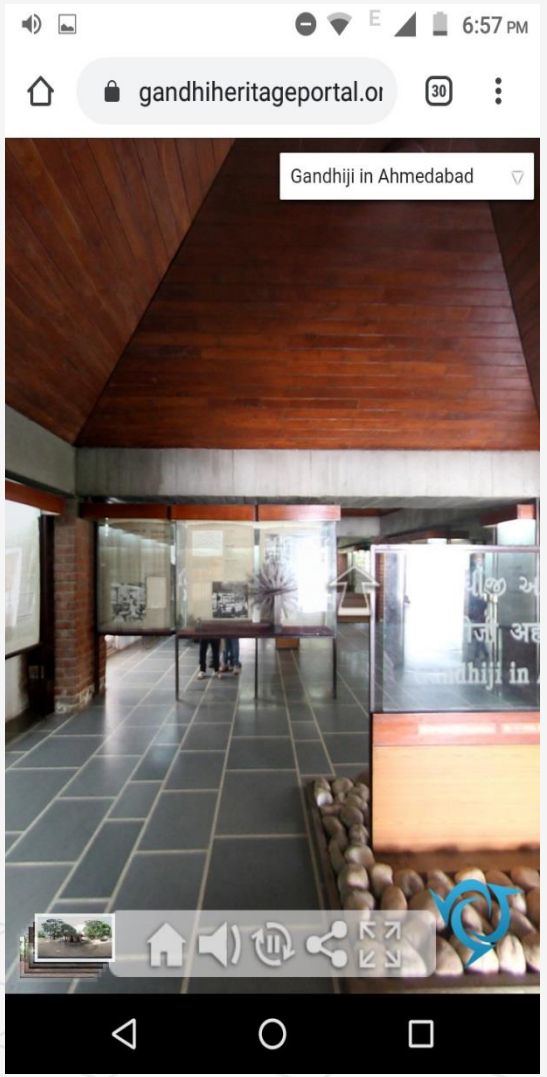

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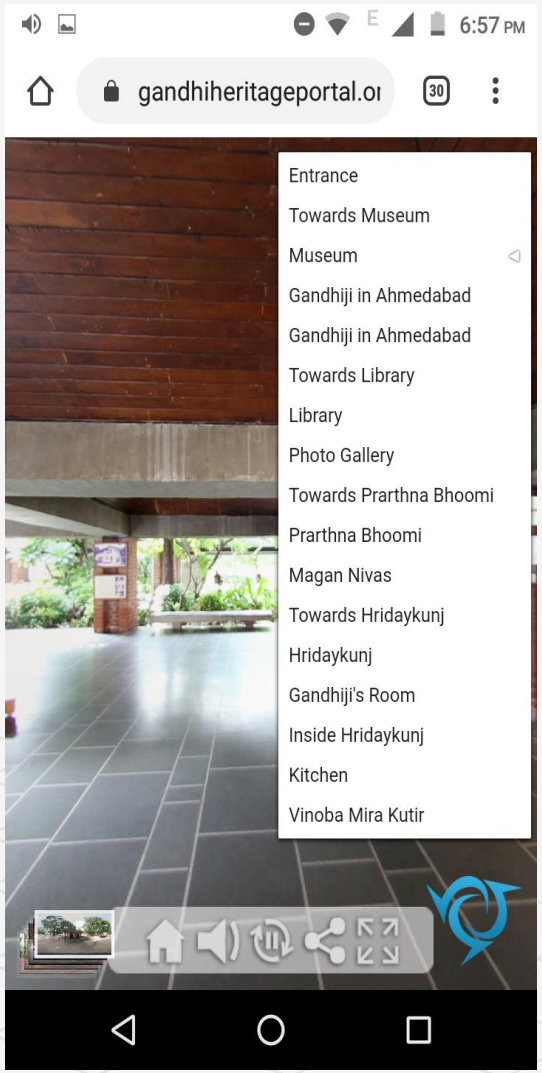
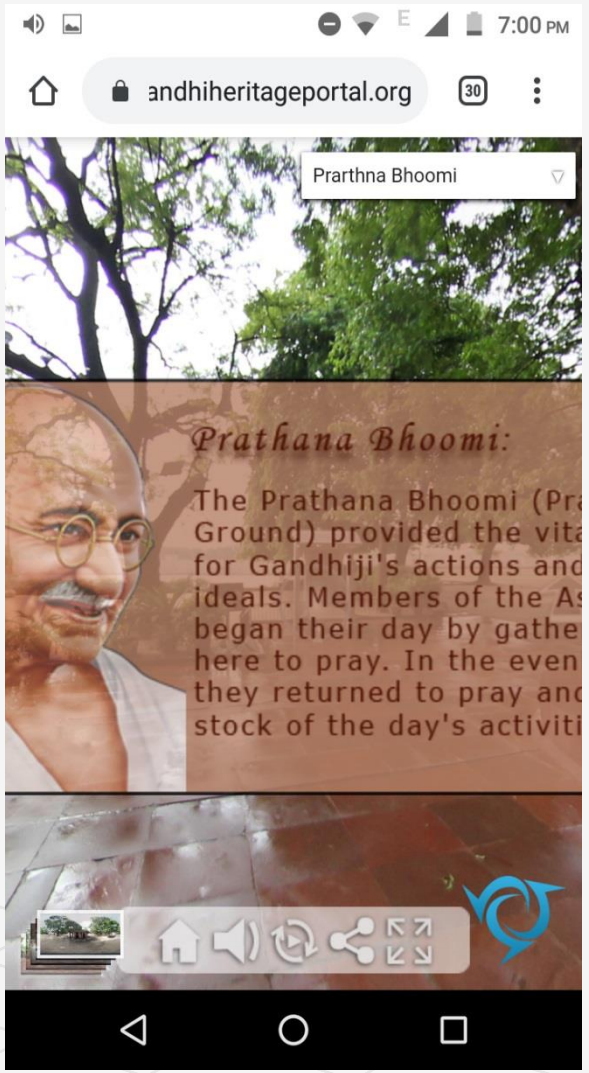




SCREENSHOTS OF AUGMENTED OBJECTS

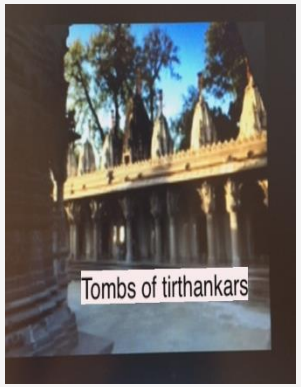
Augmentation in Safraan

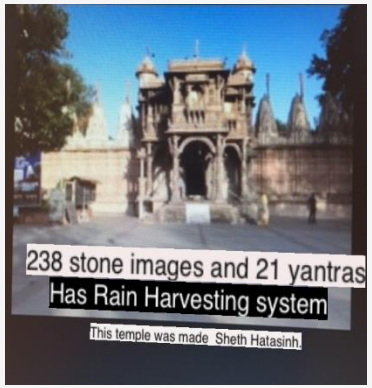
Before Trained image in Wikitude Studio

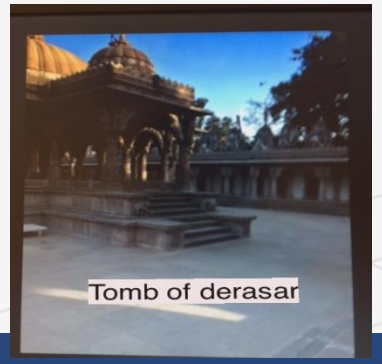
Trained image in Wikitude Studio for augmentation

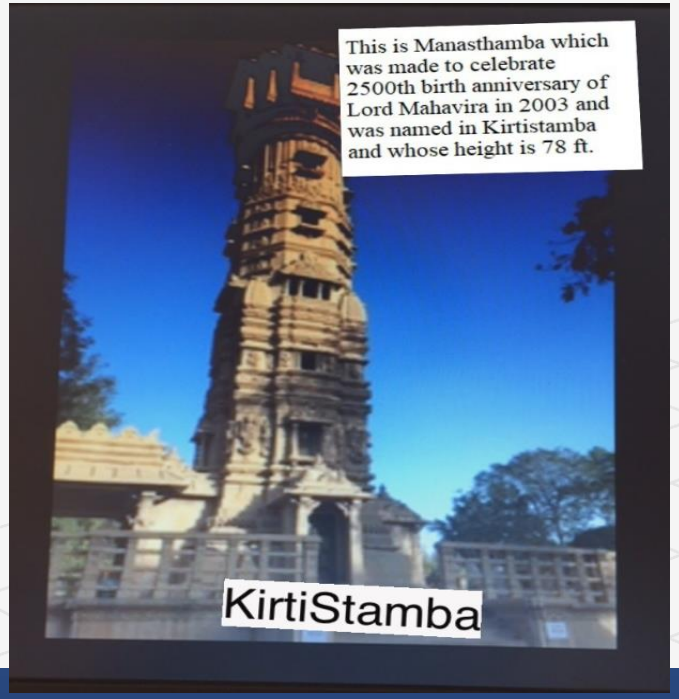
Jain Temple

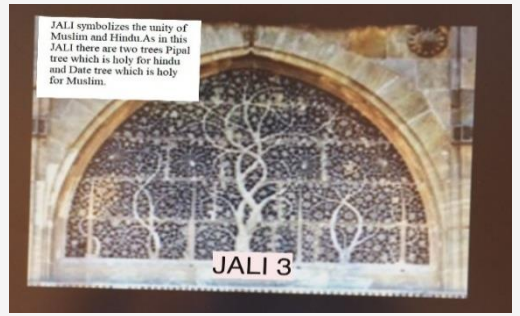
Sidi Sayeed Mosque

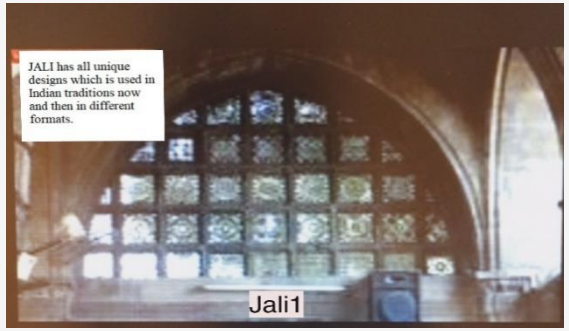


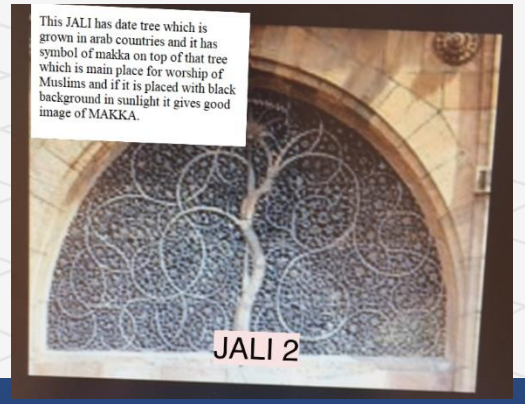




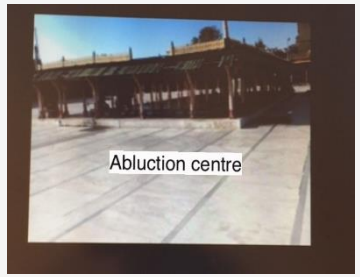


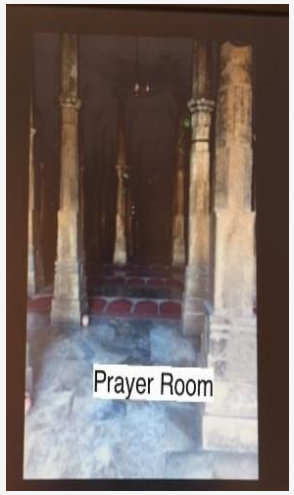


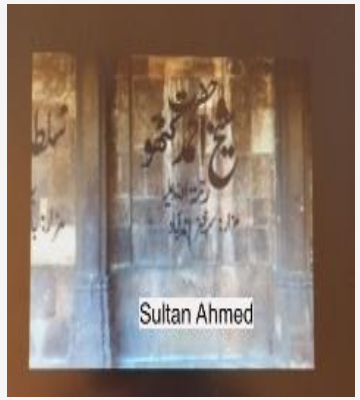


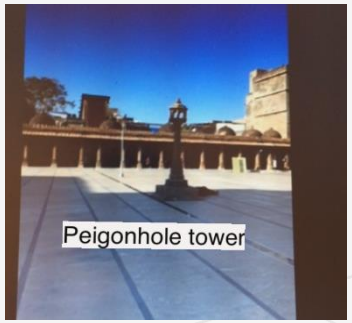


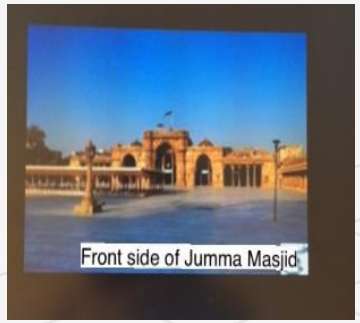
Jama Masjid



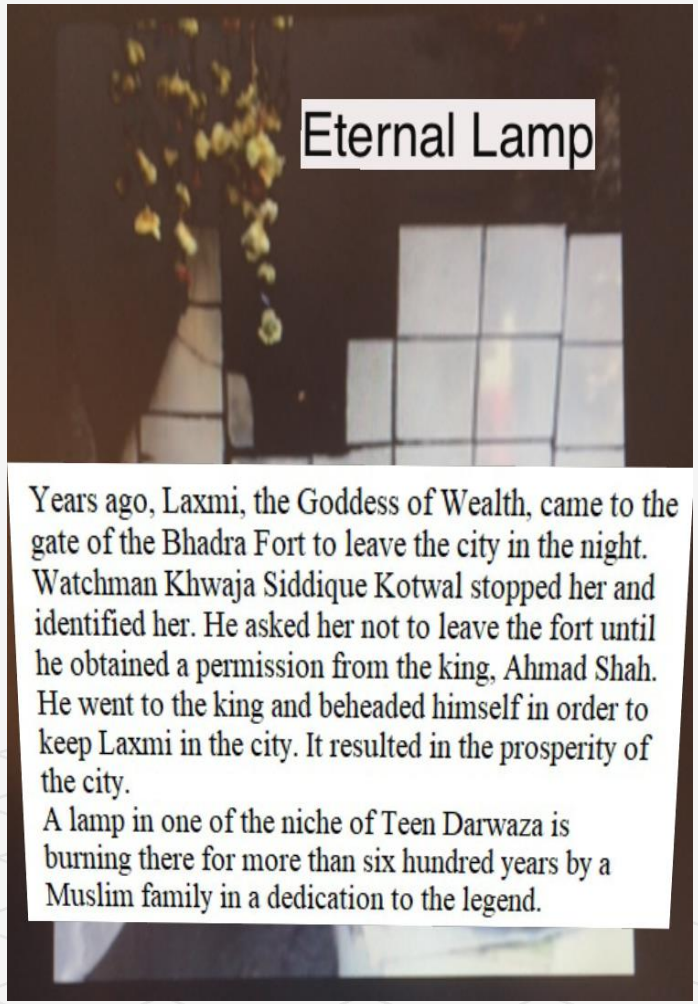


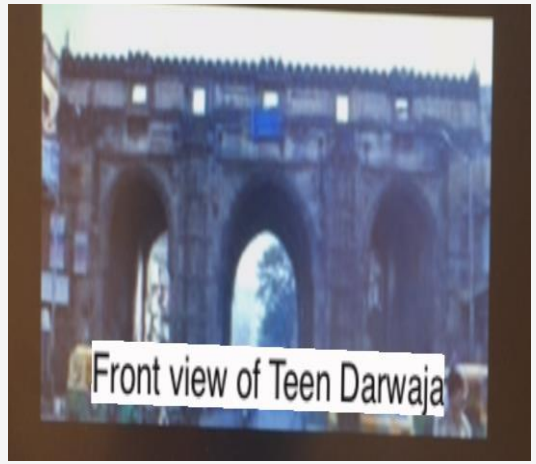


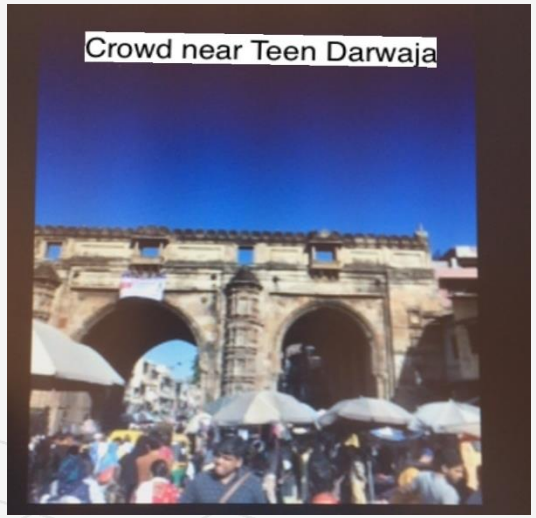




Teen Darwaza

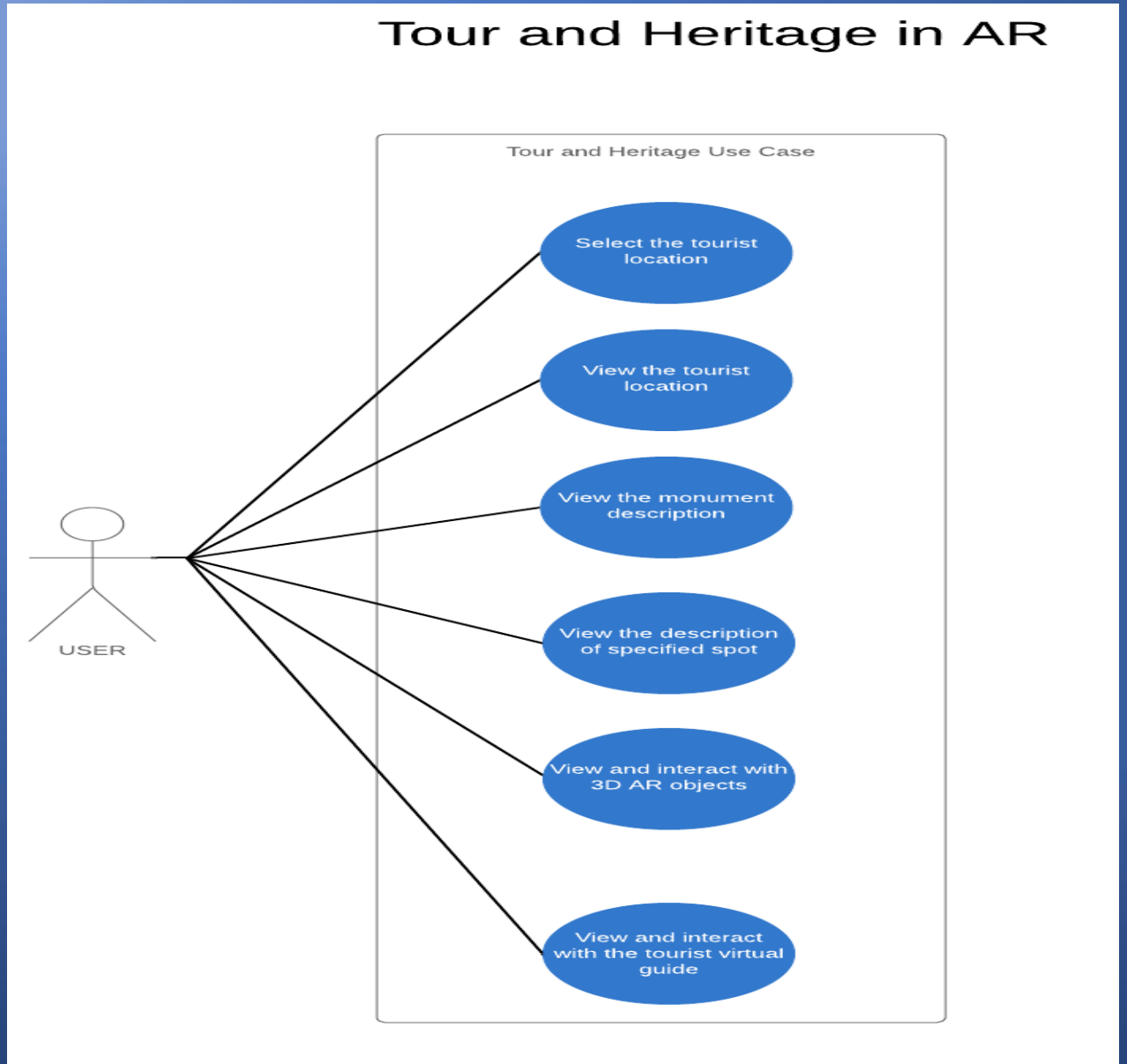




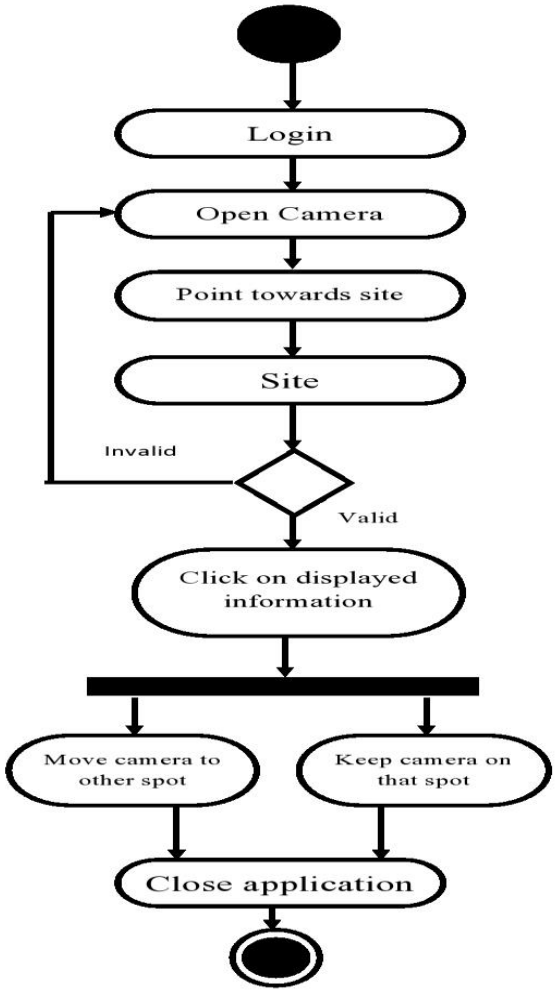


DIAGRAMS

USECASE DIAGRAM



ACTIVITY DIAGRAM



Activity Diagram of user

SEQUENCE DIAGRAM

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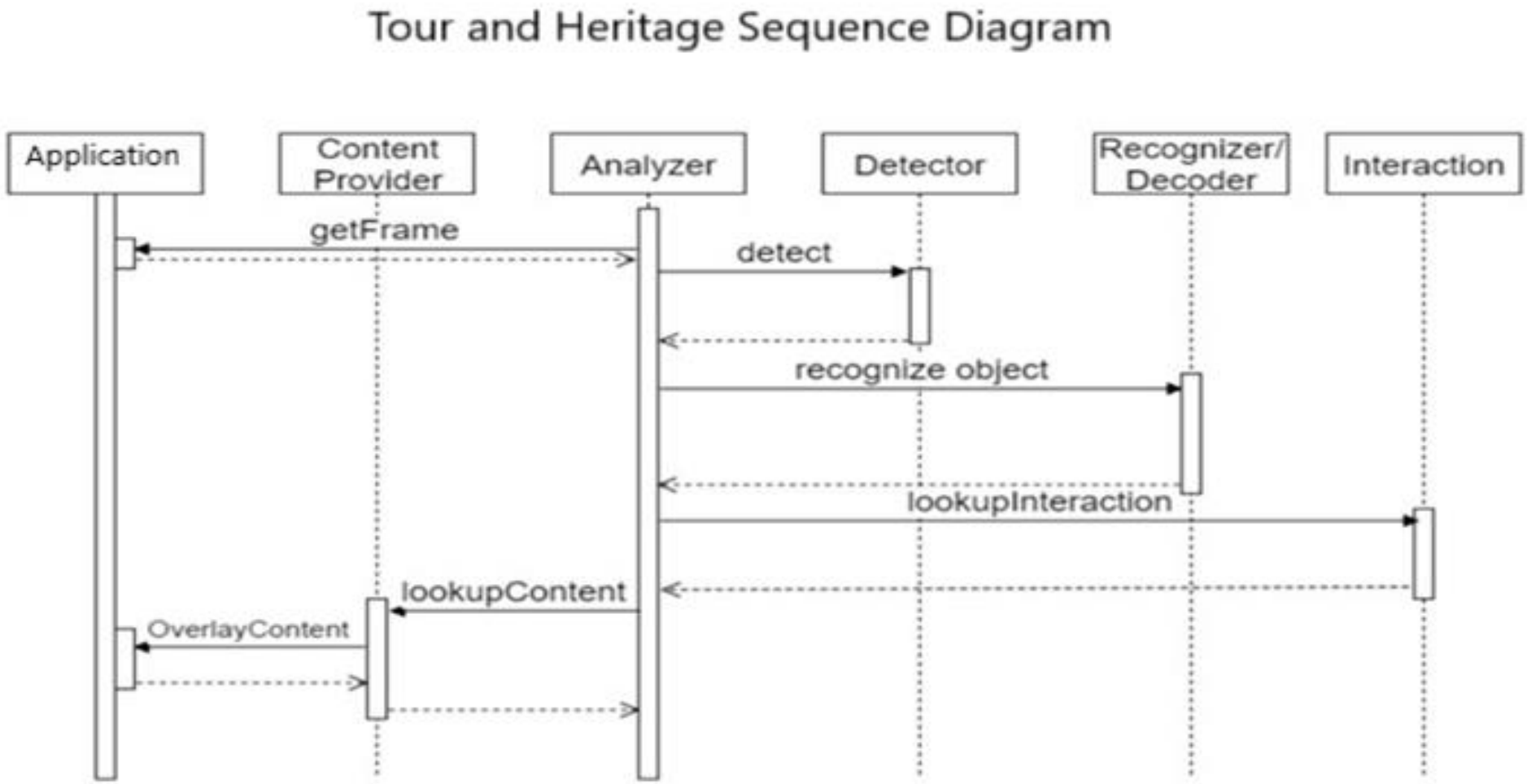


LIMITATIONS OF AR

- It occupies large size.
- Drains power battery rapidly.
- Lot of heat is generated.
- If there is low light environment it does not works properly.
- Need powerful version of processors in mobile phones .

CONCLUSION

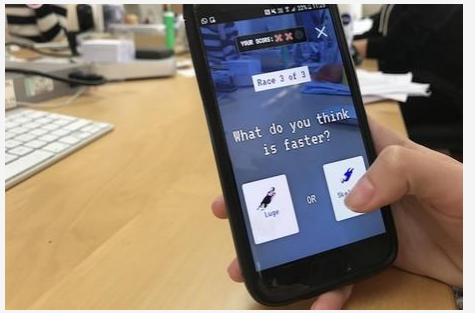
- Augmented reality in tourism and travel is still new and unsettled.
- It provides new ways of exploring places.
- Tourists get to relive the era of monuments and understand them better.
- A country can benefit – by boosting the economic growth and preserving its centuries old culture.

SAFRAAN 2.0

The route will be visualized in an augmented map for a better overview.

Once arrived at a destination, further information will be provided in the form of audio or AR content.

Riddles hidden in the AR content can be solved to gather redeemable points.



The AR mode will show other customers who are using the app. Recommendations and ratings can be exchanged.

Bibliography

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