SOFTWARE REQUIREMENTS SPECIFICATION

for

INTERACTIVE MAJULI RIVER ISLAND VIRTUAL TOUR

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Prepared by
Chandrabhushan Reddy (200101027)
Manideepak Gannoju (200101032)
Lohith Lenka (200101059)
Hareesh Nandigrama (200101071)
Sathvika Kalangi (200101048)

IIT GUWAHATI

Supervised by
Prof. SAMIT BHATTACHARYA

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Introduction

1.1 Purpose

The purpose of the interactive virtual tour of Majuli river island project is to provide an immersive, multimedia-rich experience that showcases the ecological, cultural, and architectural heritage of the island. The purpose of this virtual tour is to give users an in-depth look at the Auniati, Kamalabari temples, and Jangraimukh tribal village, encompassing its location, ecology, daily activities, and significant events. The tour provides a comprehensive experience of the premises and its daily rituals.

The target audience for the project is a diverse group of people interested in exploring the cultural and architectural heritage of the Majuli river island. This may include tourists, students, researchers, cultural enthusiasts, and individuals interested in learning more about the unique features and significance of the island. The project will also be accessible to a wider audience, including those who may not be able to visit in person, by providing a virtual experience.

1.2 Document Conventions

Term	Definition
DESC	Description
IMP Location	Important but easily overlooked locations and locations with ambient sounds (e.g. river, birds chirping)
UNIMP Location	Locations other than IMP Locations
Input key(s)	Keyboard/Joystick/Emulator key(s)

1.3 Project Scope

Creation of a comprehensive and interactive multimedia-rich experience. The virtual tour will be comprised of four major components, including a multimedia-rich introduction to the river island, an audio-visual tour of the Auniati temple premise, and interactive navigation features. The virtual tour will allow the user to experience daily rituals and special events at the temple and gain a comprehensive understanding of the location and its surroundings. The project will be compatible with various input devices, such as keyboards and joysticks, and the software will support various file formats for audio, video, and images. The project will also be compatible with various operating systems and have the ability to exchange data through APIs. The project will be designed to run on devices with high performance, adequate storage space, and compatible screen resolution to fully experience the virtual tour.

Overall Description

2.1 Product Perspective

"IICT WEBSITE" is the replacement of the manual hard copy result process. The data have been stored in the hard file or papers, this website will store all of those in the website. Main goal of this project is to minimize the work and maximize the result of this result processing system.

2.2 User Classes and Characteristics

"IICT WEBSITE" has basically 4 types of users.

- Teachers
  - Director
  - Course Teacher
- Students
- Official Staff

Teacher has 2 types - Director defines the course teachers who will take the courses. Student fulfill all the requirements like- fees, informations can take advantages of the website.

2.3 Product Functions

"IICT WEBSITE" store all the results of the students of program PGD, MIT. Also others programs can be included if necessary. Before using the main function of the software result process, users have to be registered.
All users have - login_parameter, user_name, first_name, last_name, user_id, role, post, email, phone_number, present_address, parmanent_address, blood_group, password_hash and timeStamp.
Students have some extra informations after complete his/her registration , such as - user_id(foreign key), registration_id, year, semester, course_array and drop_course_array. These are the information that contains his/her result of his taken courses and program.
Each programs has some data - program_name, program_id, course_id, nunmber_of_semester, total_credit and course_length. There will be onew or many course_id in each programs.
Courses table contains - course_name, course_id, course_code, credit, semester and teacher_id.
Every course has its own Credit Values. Those have been 2 types - lab, theory.
Result is the main feature of all. It contains the values of all the exams of a particular student. It has data field - student_id, course_id, term_test, attendance, marks(A), marks(B), teacher_id(A), teacher_id(B), entry_date(A), entry_date(B), publish_date, semester and result_state.

2.4 Operating Environment

The website will be operate in any Operating Environment - Mac, Windows, Linux etc.

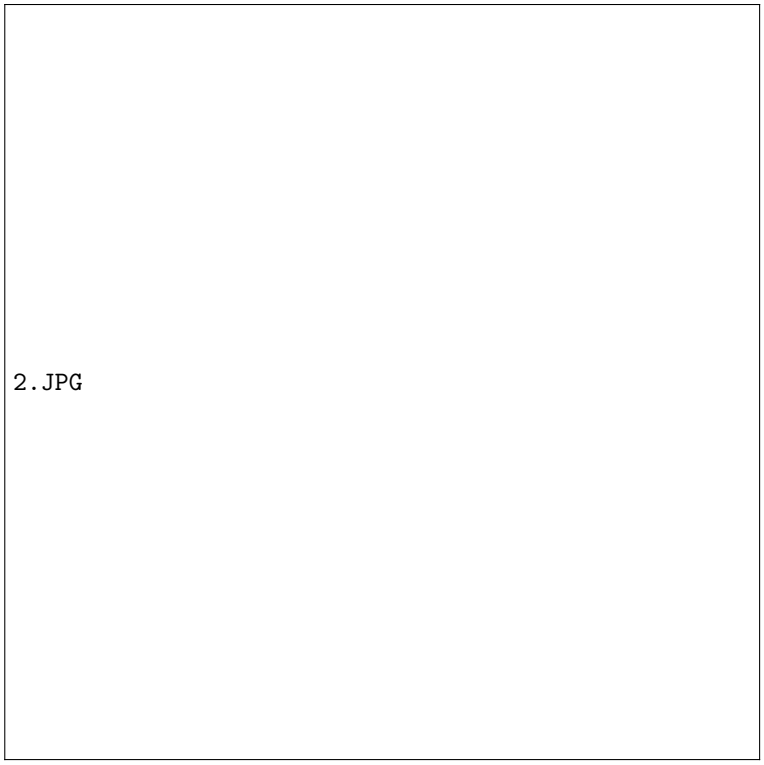

Figure 2.1: type of users

2.5 Design

Student activities have 3 steps -

- From Fill Up Process
- Courses Payment
- Student Profile

Top selected Student first fill his/her form, bank payment. After verification, student pays for their selected courses. Then he can enter his profile.
Every student profile contains his/her personal information, results, taken courses, dropped courses and notice.
Notice will contain all the news of IICT.

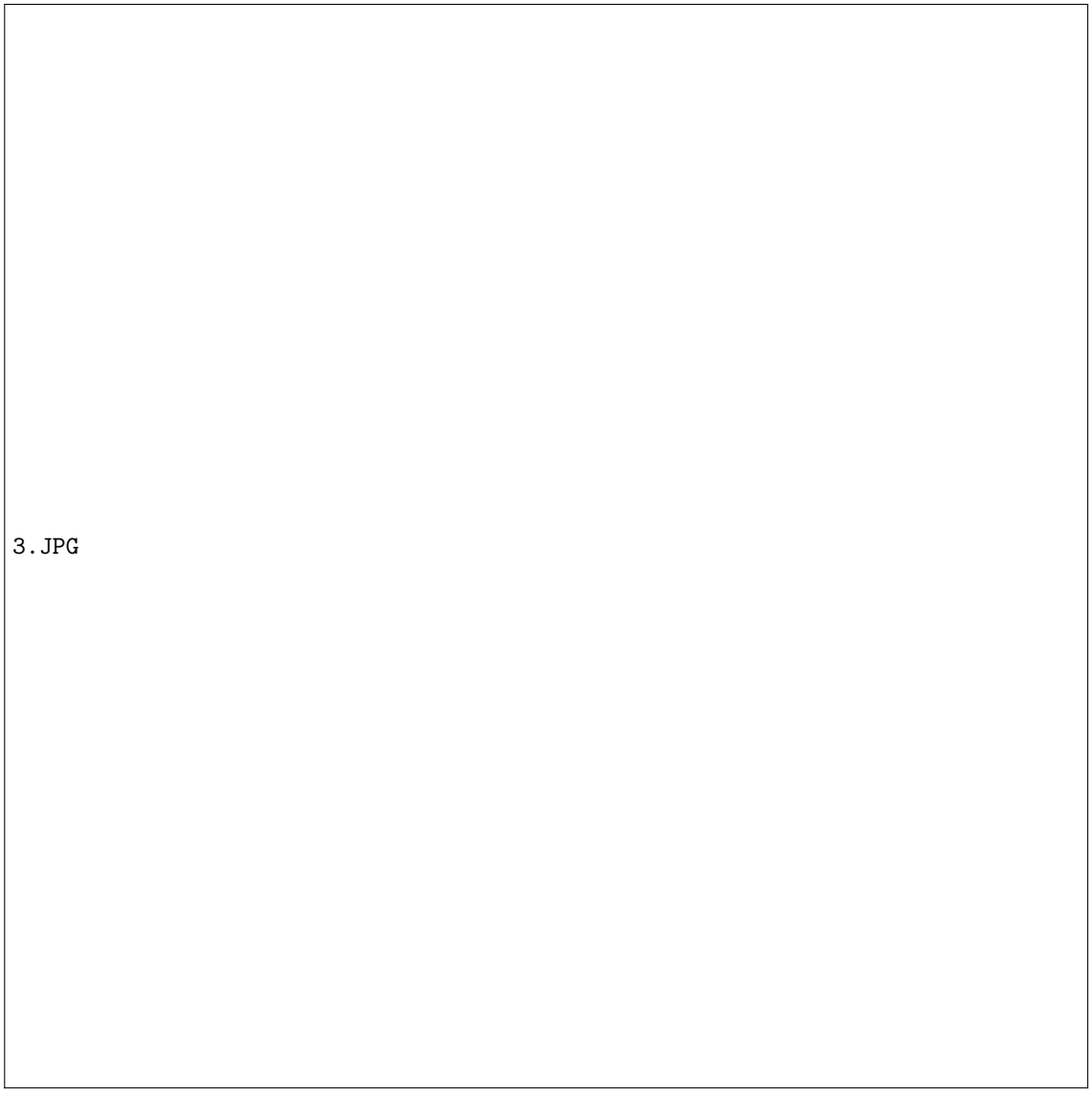

Figure 2.2: Data Flow Diagram

Teacher activities have 2 steps -

- Director
- Course Teacher

Director can re-view the result, publish result, give notice and also create teacher. He can also perform course teacher activities.
Teacher creates results, view students and create notice.

Staff has only one activity -

- Notice

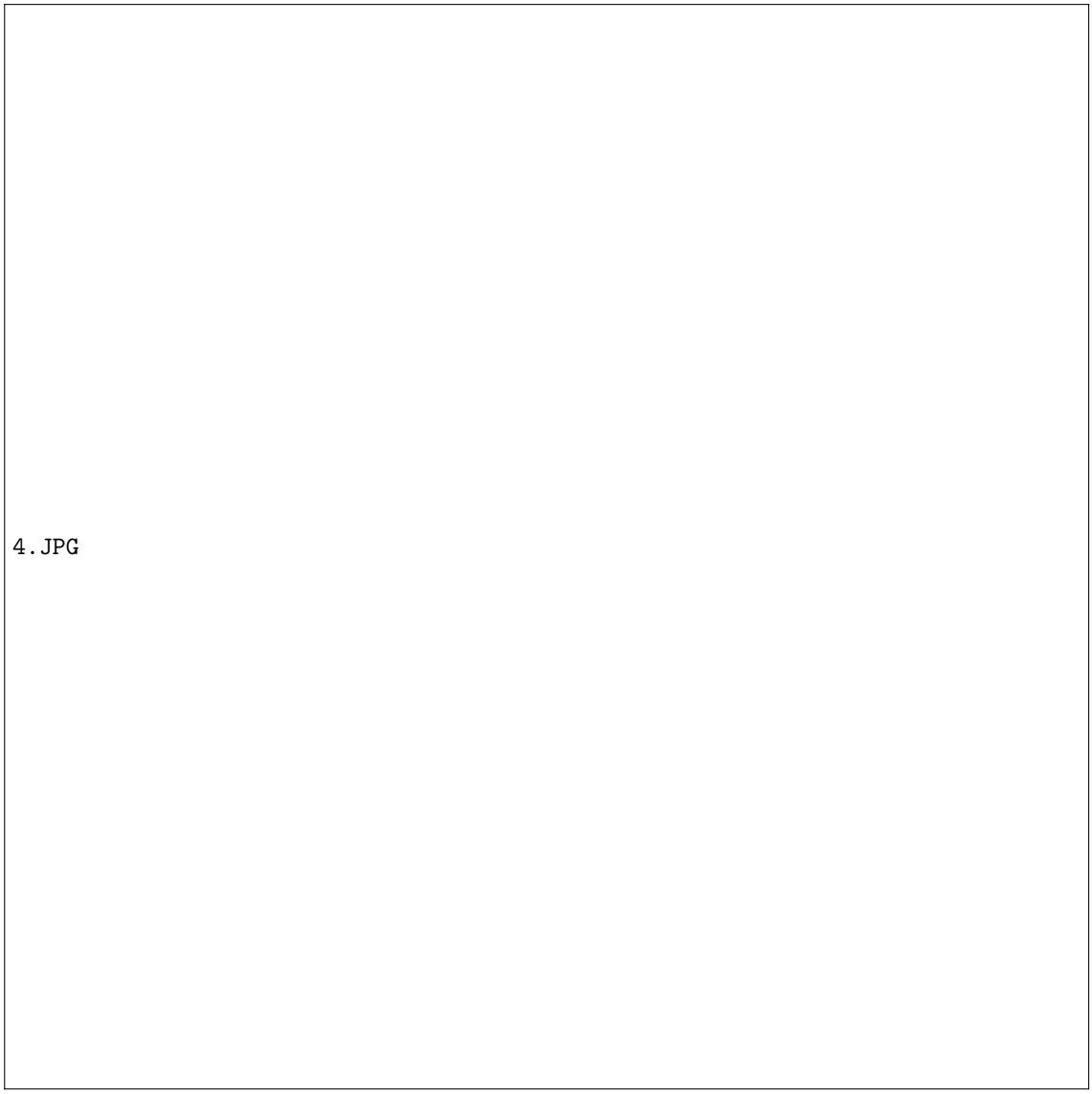

Figure 2.3: Student Activities

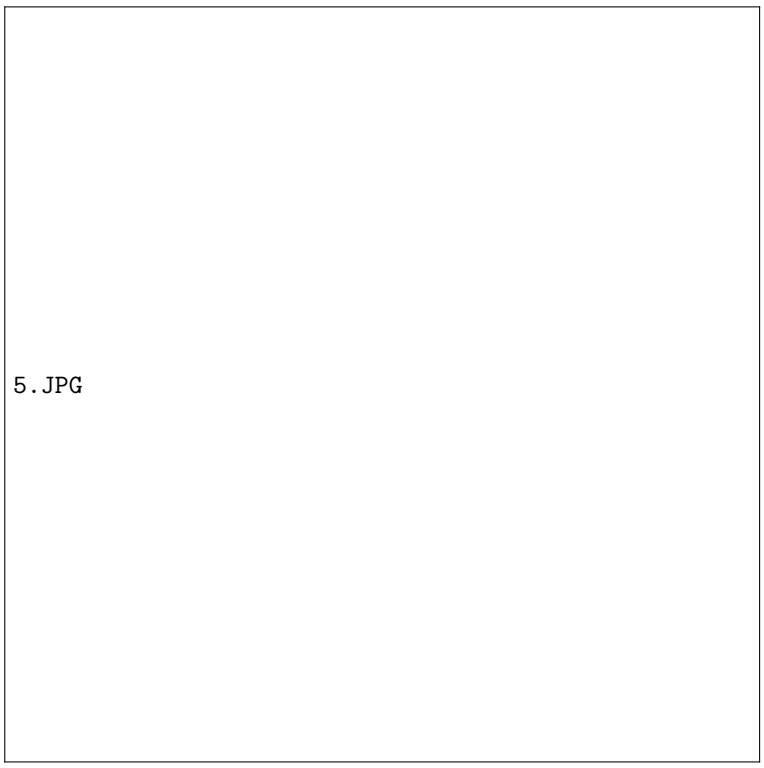

Figure 2.4: Teacher Activities

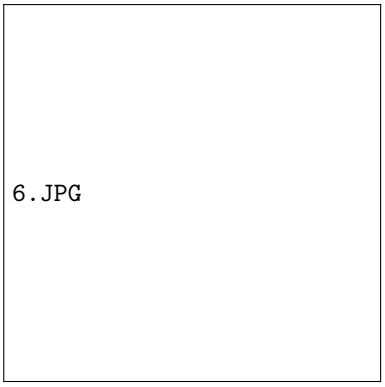

Figure 2.5: Staff Activities

External Interface requirements

User interfaces

Hardware interfaces

In order to fully experience the virtual tour of the Majuli river island, it is important to ensure that the devices used have the necessary hardware components. These components include speakers and input devices such as a keyboard or joystick. Additionally, it is recommended that the devices have a minimum screen resolution in order to enhance the overall experience of the tour.
It is also crucial that the devices have high performance capabilities, ample storage space, and operating system compatibility in order to effectively run the software.

Software interfaces

The operating system on the device used to run the software must also be compatible with the virtual tour software and also the connection between the input devices and the virtual tour software could be established through various means, such as Wi-Fi, Bluetooth, or wired connections. The design team will determine the most appropriate connection method based on the specific requirements of the project.
It is important to specify the file formats that the virtual tour software must be able to read and write, such as image, audio, or video formats. Furthermore, Better API requirements for data exchange, data retrieval, or data visualization.

Functional Requirements Hierarchy

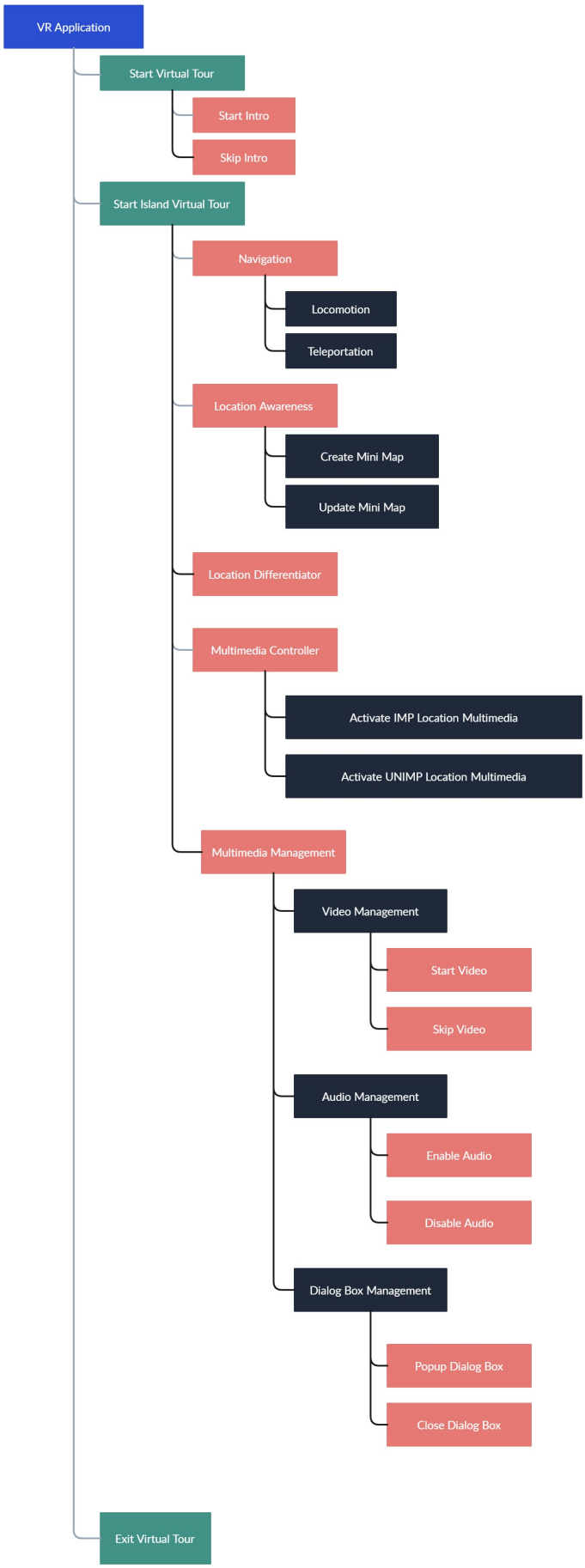

Figure 4.1: Staff Activities

Functional Requirements

5.1 Start Virtual Tour

- **Input** : Input key(s)
- **Output** : Visual Effects / Island Virtual Tour Start Screen
- **DESC** : Displays the visual effects or skips it based on the input keys

5.1.1 Start Intro

- **Input** : Input key(s)
- **Output** : Visual Effects and Geographical Description
- **DESC** : Displays visual effects such as globe rotation and gives a multimedial description (video/audio/image) on the location, geography, ecology, important places and daily life on the river island

5.1.2 Skip Intro

- **Input** : Input key(s)
- **Output** : Island Virtual Tour start screen
- **DESC** : Skips the introduction video and displays the start screen of Majuli Island virtual tour

5.2 Start Island Virtual Tour

- **Input** : Location Landmark (Kamalabari temple / Auniati temple / Jangraimukh tribal village)
- **Output** : VR Tour
- **DESC** : Starts the island's virtual tour based on the input location landmark

5.2.1 Navigation

- **Input** : Location / Input key
- **Output** : 3D-view

5.2.1.1 Locomotion

- **Input** : Input key
- **Output** : 3D-view
- **DESC** : 3D-view based on stepwise movement (right/left/front/back) of the user

5.2.1.2 Teleportation

- **Input** : Location
- **Output** : 3D-view of teleported location

5.2.2 Location Awareness

- **Input** : Location Landmark / Location
- **Output** : Mini Map

5.2.2.1 Create Mini Map

- **Input** : Location Landmark
- **Output** : Mini Map
- **DESC** : Creates a mini map based on the chosen landmark

5.2.2.2 Update Mini Map

- **Input** : Location
- **Output** : Mini Map
- **DESC** : Updates the mini map based on real-time tracking of user's location

5.2.3 Location Differentiator

- **Input** : Location
- **Output** : Location Importance
- **DESC** : Decides whether a location is IMP or UNIMP

5.2.4 Multimedia Controller

- **Input** : Location
- **Output** : Multimedia / Choice Popup
- **DESC** : Automatically activates multimedia if the location is IMP, else gives user a choice for triggering multimedia

5.2.4.1 Activate IMP Location Multimedia

- **Input** : IMP Location
- **Output** : Multimedia
- **DESC** : Automatically activates the multimedia (audio/video/text description) of the location

5.2.4.2 Activate UNIMP Location Multimedia

- **Input** : UNIMP Location
- **Output** : Choice Popup
- **DESC** : Offers the option for the user to enable multimedia or not. If the user opts to activate it, then it will be played, otherwise, there will be no alteration

5.2.5 Multimedia Management

- **Input** : Multimedia Name
- **Output** : Multimedia/3D-view
- **DESC** : Multimedia is activated or deactivated appropriately based on user's action

5.2.5.1 Video Management

- **Input** : Video Name
- **Output** : Video/3D-view
- **DESC** : Video is played or skipped appropriately based on user's action

5.2.5.1.1 Start Video

- **Input** : Video Name
- **Output** : Video
- **DESC** : Plays the video description of that location

5.2.5.1.2 Skip Video

- **Input** : Video Name
- **Output** : 3D-view of that location
- **DESC** : Skips the video description of that location

5.2.5.2 Audio Management

- **Input** : Audio Name
- **Output** : Audio/3D-view/Silent Video
- **DESC** : Audio is enabled or disabled appropriately based on user's action

5.2.5.2.1 Enable Audio

- **Input** : Audio Name
- **Output** : Audio
- **DESC** : Enables the audio description of that location

5.2.5.2.2 Disable Audio

- **Input** : Audio Name
- **Output** : 3D-view/Silent Video
- **DESC** : Disables the audio description of that location

5.2.5.3 Dialog Box Management

- **Input** : Dialog Box Name
- **Output** : Dialog Box/3D-view
- **DESC** : Dialog Box is popped up or closed appropriately based on user's action

5.2.5.3.1 Popup Dialog Box

- **Input** : Dialog Box Name
- **Output** : Dialog Box
- **DESC** : Pops up a dialog box which contains the textual description of that location

5.2.5.3.2 Close Dialog Box

- **Input** : Dialog Box Name
- **Output** : 3D-view of that location
- **DESC** : Closes the corresponding dialog box of that location

5.3 Exit Virtual Tour

- **Input** : Input key(s)
- **Output** : Globe
- **DESC** : Exits the virtual tour to the start of the application i.e., to the "Start Virtual Tour"

Other Non-Functional Requirement

6.1 Performance Requirement

1. Fast load time for all multimedia elements
2. Real-time navigation with minimal lag
3. Responsive design for different screen sizes

6.2 Security Requirements

1. Data protection for user information
2. Secure storage and transfer of multimedia elements