Mechanism and Expression of Emotions in Virtual Human

SRS

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1.0 Introduction

1.1   Purpose

The purpose of the document is to explain and list the features of our project that involves creating Virtual Humans and adding emotion to these models. It lists the various functionalities and other features.

1.2   Scope of Project

3D computer models of the human being are exciting, and it has many applications, for example, for training, design ergonomics, simulation in hazardous environments, in computer games and in the film industry.

1.3 Definitions and abbreviations

Term	Definition
Virtual Human	Any replicated model of a Human Being.
Emotion	A natural instinctive state of mind deriving from one's circumstances, mood, or relationships with others.
MPEG	Motion Pictures Experts Group
FAP	Facial Animation Parameter
FDP	Facial Definition Parameter

1.4 References

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1.5 Overview of Document

Here onwards the SRS is broadly classified into two sections: General requirements and Specific requirements. The **general requirement** gives an insight into the product describing the functionalities, informal requirements and establishes the context for technical requirements. The **specific requirements** addressed to the software developers describe the technical aspects of the product to provide a detailed understanding of the Emotion in Virtual Humans.

2.0 General Description

2.1 Product Perspective

The product comprises of a website through which the user can access the six basic emotions through the Virtual Human.

2.2 Product Functions

The first view of the user will be the home page of the website. This will contain information about the project as well as give a small greeting. The other pages include:

- Blender emotion animation
- Different type of emotion
- Compare page to see difference between user's and Virtual Human's emotion
- Upload page for the user to send data for different emotion in form of pictures.
- Documentation page that contains detailed explanation of our project as well as the procedure.

2.3 User Characteristics

The product has been built such that it can be operated by any user with minimal computer knowledge. We have provided large bright buttons and a friendly user interface

2.4 General Constraints

The Virtual Human model to be designed must follow the MPEG-4 Standard parameters. The six basic emotions - happy, sad, fear, angry, disgust and surprise must be implemented.

3.0 Specific Requirements

3.1 Functional Requirements

The following are the functional requirements of the project:

- Blender emotion animation: Must be able to show the change from a neutral face to the selected emotion face.
- Different type of emotion: Display the different types of emotions- sad, angry, happy, disgust, surprise and fear.
- Compare page to see difference between user's and Virtual Human's emotion: the user should be able to pin point any differences if any between the actual human and Virtual Human.
- Upload page for the user to send data for different emotion in form of pictures: User can upload the above photographs to add to the database.
- Documentation page that contains detailed explanation of our project as well as the procedure.

3.2 Non-Functional Requirements

- The product shall be platform independent and can be viewed in any standard web browser (recent).
- People of any age or gender must be able to use this product freely without any hindrance.
- The font size must be sufficiently large and the color must be aesthetically pleasing.

3.3 External Interface Requirements

Hardware Requirements: No such requirements were identified.

Software Requirements: The user shall need a working browser.