PROJECT REPORT

ON

JSON VALIDATOR

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UNDER THE SUPERVISION OF

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Table of Contents

MOTIVATION

Software practitioners use a variety of Requirement engineering approaches to produce a well-defined product. These methods impact the software product's ultimate traits and target a particular audience segment. Virtual Reality (VR) products are no different from such an influence. With the notable rise in product offerings across various fields, VR has become an essential technology for the future.Thus, we introduce a tool called VReqST - a requirement specification tool for VR system development. Requirement Specification of VR systems can be performed 5 steps:

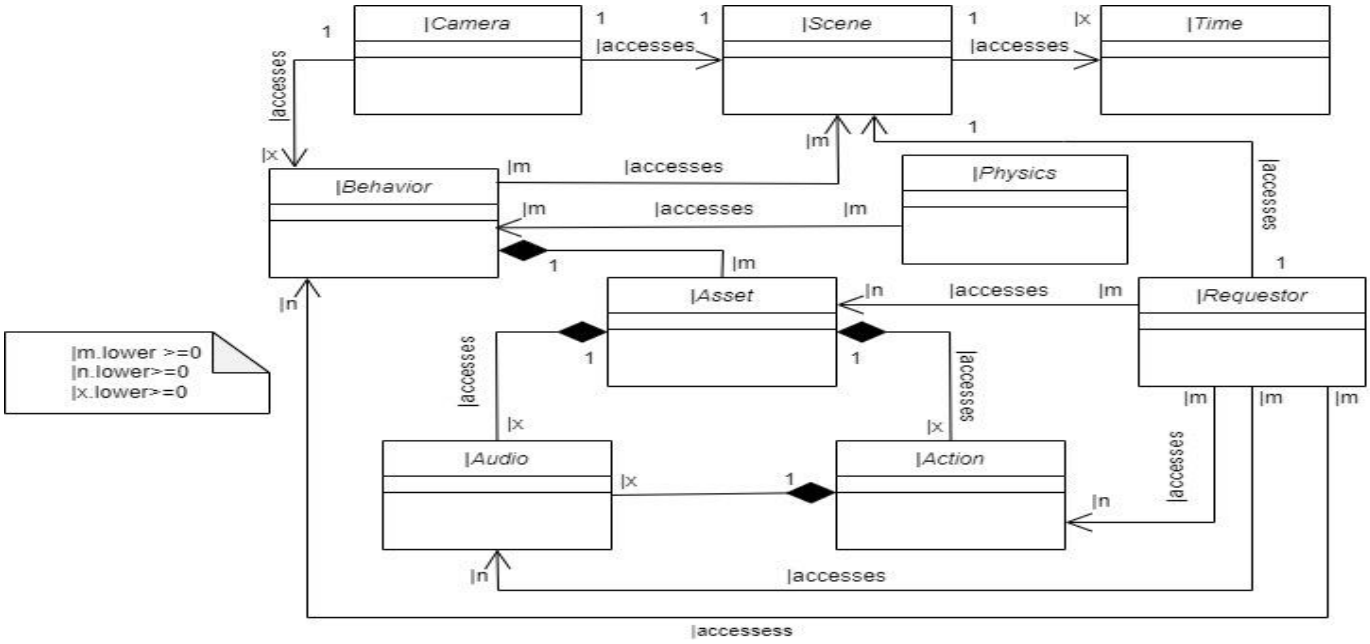
a. Specifying VR Scene layout Properties

b. Specifying Object Properties that are used in VR scene

c. Action-Responses allowed between Objects in the given Scene

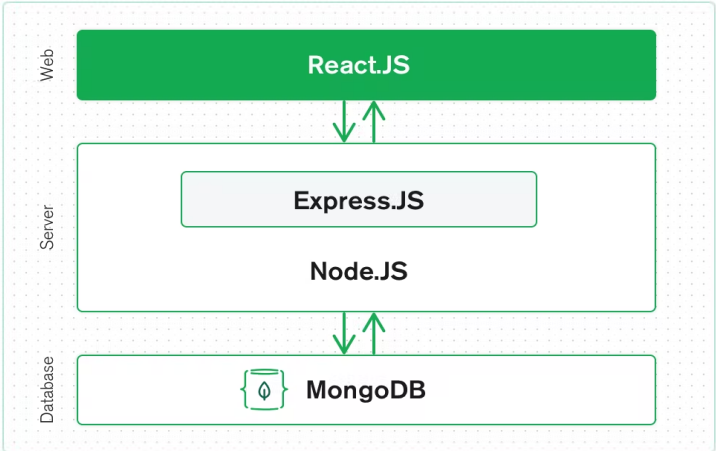
d. Custom Scripts to document custom tasks-responses, defining algorithms etc.

e. Specifying a timeline of events of all objects in the specified scene.



Technology Stack - MERN

MERN Stack is a compilation of four different technologies that work together to develop dynamic web apps and websites.



MongoDB (M): MongoDB is a NoSQL DBMS where data is stored in the form of documents having key-value pairs similar to JSON objects. MongoDB enables users to create databases, schemas, and tables..

ExpressJS (E): ExpressJS is a NodeJS framework that simplifies writing the backend code. It saves you from creating multiple Node modules.

ReactJS (R) : ReactJS is a JS library that allows the development of user interfaces for mobile apps and SPAs. It allows you to code JavaScript and develop UI components.

NodeJS (N) : NodeJS is an open-source JavaScript runtime environment that allows users to run code on the server. It comes with the node package manager or npm.

IMPLEMENTATION

Login Management :

To gain access to this tool, the VR practitioner should register by accessing a registration page with FirstName, LastName , Email , Organization ,Username ,Password

User Management :

There are two types of users based on their grant type and access capacity

1. Requirement Specification User – This user can create multiple requirement specification projects and manage them at every specification step

2. Super User- Who can view all Specification projects created by an other requirement specification users using emulation option (Login as User).

JWT Authentication : JSON Web Token is an open standard for securely transferring data within parties using a JSON object. JWT is used for stateless authentication mechanisms for users and providers, this means maintaining session is on the client-side instead of storing sessions on the server. Here, we have implemented the JWT authentication system in NodeJs.

Dashboard Management :

It shows activities of the user and projects. By default it shows name of the user and recent 3 projects and recent files.

File Management :

File module gives user capability to add grammar file which can be used for validation in Projects

Specification Management :

Requirement Specification has 5 steps

1. Scene definition

2. Asset definition

3. Action-Response

Download File :

It lets user download separate file (available for download after successful validation) or all the files as a zip once project is done.

FUTURE SCOPE

This project is helping us to validate the grammar of JSON as of now. Going forward by making some tweaks in the logic this also can be used to validate more complex logics. Moreover, it is grammar dependent so keeping the underlying architecture same we can simply make it to validate other languages' grammars.