Immersive Quiz for Spanish Learners

A Manuscript

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We recommend acceptance of this manuscript in partial fulfillment of this candidate's requirements for the degree of Master of Software Engineering in Computer Science. The candidate has completed the oral examination requirement of the capstone project for the degree.

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Abstract

Austin Klum, J., "Immersive Quiz for Spanish Learners," Master of Software Engineering, May 2022, (Elliot Forbes, Ph.D.).

This manuscript describes the development of a quiz creation tool combined with a virtual reality component to provide an immersive quiz taking experience for Spanish learners. The quizzes also have an orienteering course aspect as well, where each quiz is comprised of multiple timed locations where all questions must be completed correctly before continuing onto the next location.

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Glossary

ANTLR

ANother Tool for Language Recognition. Successor to the Purdue Compiler Construction Tool Set (PCCTS). Currently maintained by Terence Parr.

BYACC/J

An extension of the Berkeley YACC-compatible parser generator. Can generate both C/C++ and Java parsers.

CUP

Constructor of Useful Parsers. A LALR parser generator written in Java.

IEEE

Institute of Electrical and Electronics Engineering. The world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity.

JFlex

A scanner generator for Java.

LALR

Look-Ahead Left to Right. LALR parsing algorithm, introduced by Frank DeRemer, provides the same high performance of LR parsing algorithm, introduced by Donald Knuth, but is more efficient in term of size.

LaTeX

LaTeX is a document markup language and document preparation systems for the TeX typesetting program.

SUT

System Under Test. This term refers to a system being tested for correct operation.

1. Introduction

1.1. Overview

The rise of globalism has prompted people of different cultures to increasingly work together and interact with one another. Thus, understanding other cultures and languages will become ever more important. Often times this can be hard to teach, especially in a classroom. Virtual reality can be used as a means to bridge the gap between real-world understanding and classroom knowledge. Virtual reality allows for a more immersive experience. A more immersive experience is a more effective way to engage students and promote learning.

In 2017-2018 there was an initial virtual reality project conducted by Claire Mitchell to take tours of Medellin, Colombia. This project was

1.2. Point 1

This subsection gives a great deal of precise description supporting point 1. For example,

1.3. Point 2

This gives Point 2

2. Requirements

2.1. Overview

This gives a brief overview of this section.

2.2. Point 1

This subsection gives a great deal of precise description supporting point 1. For example,

2.3. Point 2

This gives Point 2

3. Design

3.1. Overview

This gives a brief overview of this section.

3.2. Point 1

This subsection gives a great deal of precise description supporting point 1. For example,

3.3. Point 2

This gives Point 2

4. Testing

4.1. Overview

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