

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation
Teacher's Virtual Toolbelt
The Capstone Experience

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From Students...
...to Professionals

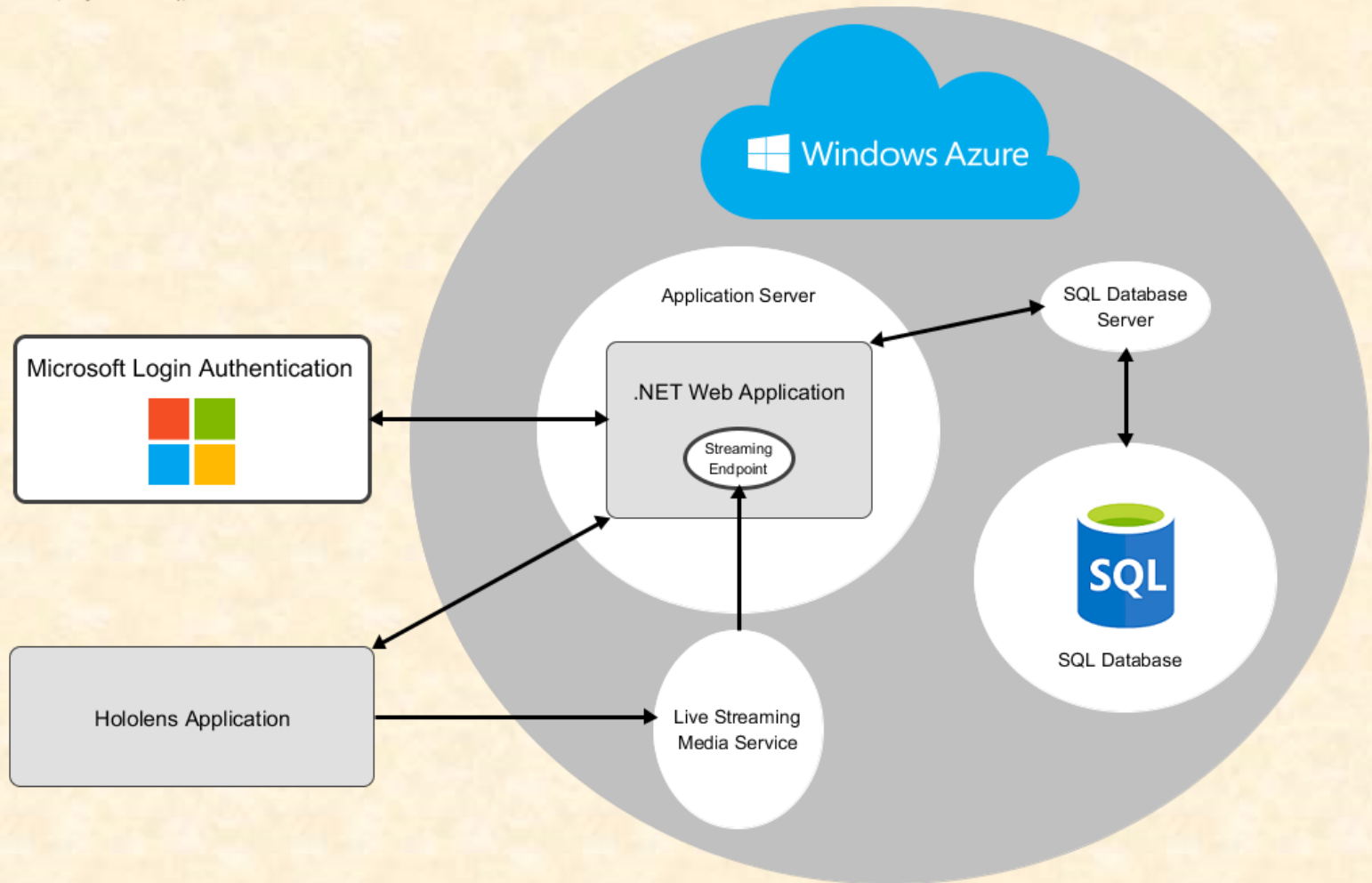
Project Overview

- Teach difficult concepts using HoloLens
- Web application
 - Teacher creates and edits lessons
 - Students watch live stream of lessons
- Teacher uses HoloLens to
 - Manipulate holograms
 - Start quizzes
 - View student questions



System Architecture

Visual Paradigm Standard Edition (Michigan State University)



Student Lesson Selection

Student - Teacher's Virtu... x

Secure | <https://localhost:44392/StudentView>

Teacher's Virtual Toolbelt Home Graduation User LOG OFF

Student Page

Welcome Alex Crimin.

To enroll in a new course please enter the individual course enrollment key below.

Enrollment Code

Enrolled Classrooms

CSE 260

[SHOW LESSONS](#)

CSE 101

[Lesson One](#)

[Lesson Two](#)



Student Lesson View

virtualtoolbelt.azurewebsites.net

Teacher's Virtual Toolbelt

PHY 184: Lesson 2

Planetary Motion

The Moon is 238,500 miles from Earth. It orbits the Earth every 27 days.

Student Questions ?

Katherine Stevenson
What causes different seasons?

Brandon Wolfe
How does the moon affect tides?

Jaime Henry
What is the force of gravity on the moon?

Suzanne Marshall
When does a lunar eclipse occur?

Ask a Question ?

Question

Quiz

What is the mass of the Earth?

3.141×10^{10} kg

5.972×10^{24} kg

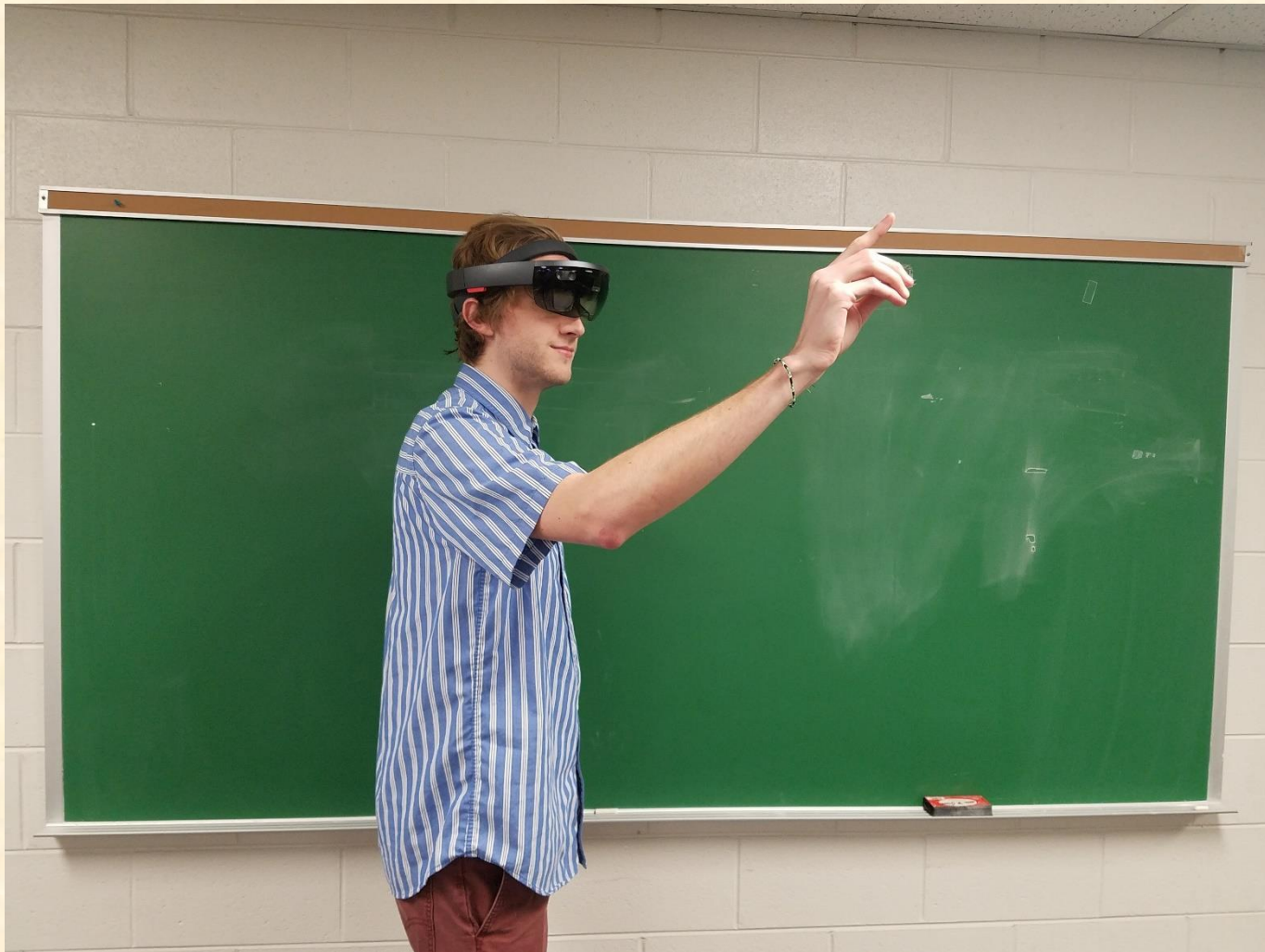
1.989×10^{30} kg

1.983×10^{30} kg

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Teacher Using HoloLens



What's left to do?

- Increase API functionality
- Quiz and student feedback support
- Improve hologram manipulation
- Start lessons and quizzes from HoloLens
- Improve streaming functionality
- Render reference material in HoloLens



Questions?

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