

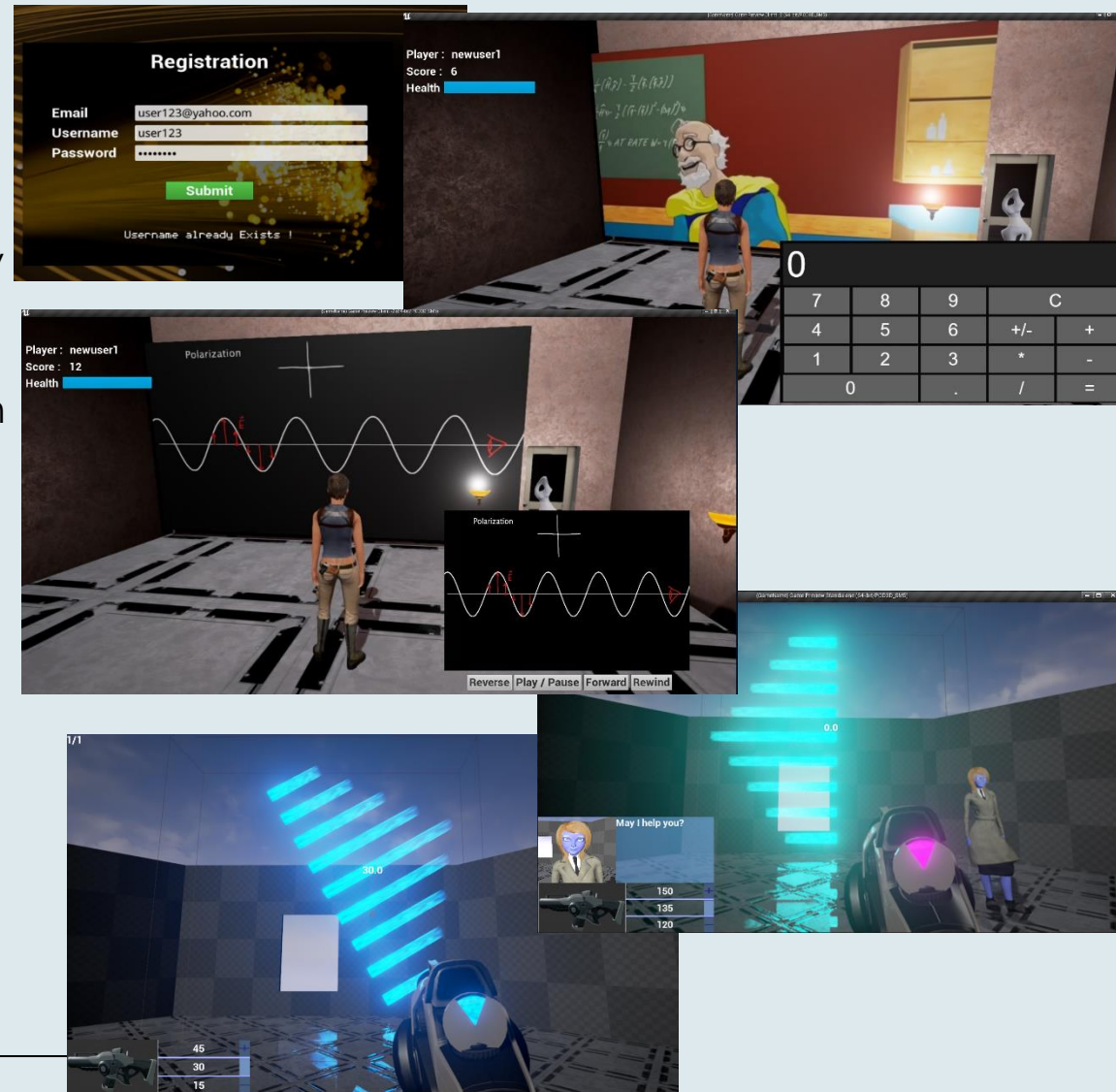
# EDU: QuaSim: A Virtual Interactive Quantum Cryptography Educator-A Project-based Gamified Educational Paradigm

## Challenge:

- Quantum cryptography remains an inaccessible subject matter
- In most cases no opportunity for hands-on experience – high equipment cost
- Most teaching is passive with linear fragmented teaching presentations

## Solution: QuaSim

- Provide holistic learning
- Engage students in a virtual interactive environment that adapts to their performance in order to maximize learning
- Transform subject based lectures into project driven virtual simulations



## Scientific Impact:

- Quantum cryptography knowledge components codified in first-order logic augmented with abductive reasoning to generate explanations for user interactions and solutions
- Adaptive framework that will generate customized scenarios and mine responses to measurably improve learning

## Broader Impact:

- Make quantum cryptography principles accessible to undergraduate and graduate students and Information security professionals
- Boost team based learning

Award: 1623380

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