MEDICAL GAMING SOLUTIONS

LEVELING UP HEALTHCARE THROUGH GAMING

By: Ethan I, Veronica C, Rain B, Lenin V
Faculty Mentor: Italo Santos

Vaccine Games For Teens

- In Arizona, 60% of individuals under 20 remain unvaccinated against COVID-19.

- HPV prevalence is on the rise, posing severe long-term health risks.

- Our project, led by Dr. Amresh, aims to utilize gaming to promote vaccination awareness.

- By integrating gaming, we strive to engage and educate teenagers about the significance of vaccinations in healthcare.


Ashish Amresh

Associate Professor – SICCS NAU

Dr. Amresh researches serious games development and the role of computer science in building stronger and diverse communities.

The Issue at Hand

- Currently, there are no intervention studies underway aimed at promoting vaccinations for children and adolescents aged 11–14

- There is a gap of literature on teens' decision within a game environment when faced with the ability to control the outcome

COVID-19 Unvaccinated U.S. Children by Age Group (October 12, 2022)
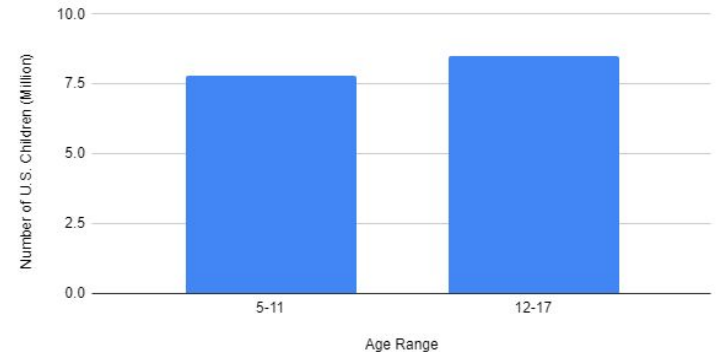
Solution Overview

Objective: Creating a game development framework that can be used to rapidly create games for different domains (i.e. Covid-19 and HPV).

- Short, Repetitive Games (Burst)

- Clinical Tablet Setting – 15 Minute Interaction

- Behavior Change Goal (increasing vaccination rates)

- Target Youth with Parental Involvement

Examples of Burst Games

Development Plans

- Monthly client meetings
  - Discuss alignment and propose project objectives
  - Identify problems with development to mitigate challenges later on
- Technical Challenges
  - Designing components
  - Streamlined way of connecting components
  - Where to host these games?
- The PLAN
  - UML diagram of code components
  - Design documentation
  - Two working games ran on web browser (itch.io)
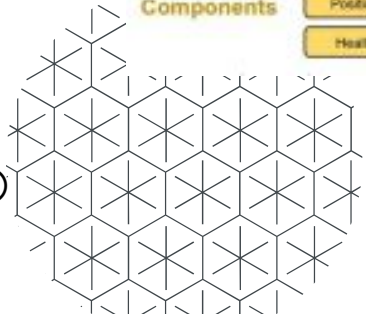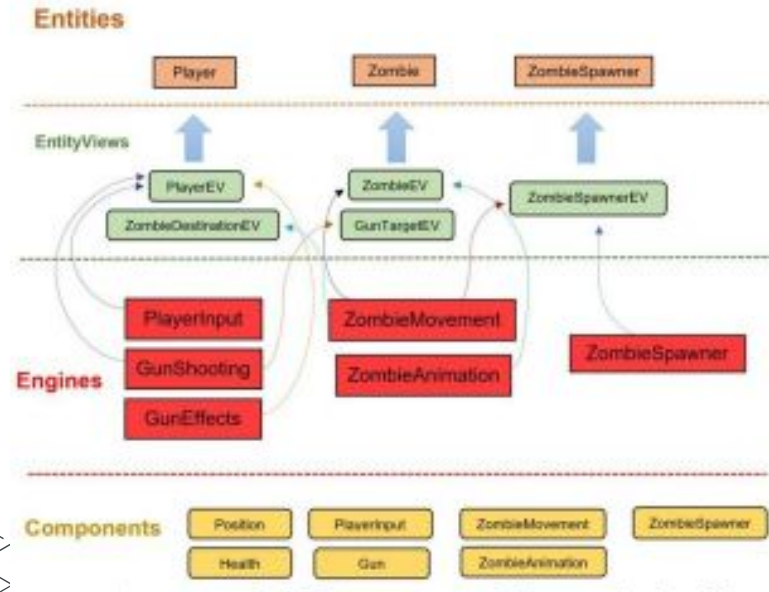
In Summary

- There is a clear need to promote vaccine uptake with teens and children
  - Focus on Covid–19 and HPV vaccinations
- MGS will have the responsibility of creating a framework to support Dr. Amresh's research on serious games
  - Framework will support reusability and low maintenance for future developers
  - Will apply framework to develop two use cases (games) of our own
- Improving health outcomes in community
- Possibly ending pandemic situation.