KINECT KAYAKING

BY

TEAM “LET'S GET WEIRD”
Liza George
Varsha Jagdale
Lisa Li
John Thompson

Project Description

"Kinect Kayaking" is an exercise-game designed to help senior citizens to stay active. The player controls a virtual kayak through arm gestures. The main goal is to motivate senior citizens by incorporating the fun of video game with physical exercise.

User Profile

- Adults aged 65 and up
- Limited mobility
- Impaired hearing and vision
- Not tech-savvy
- Moderate level of activity

Participant Profile

Data is gathered from a survey taken before user evaluation session.

AGE

| 50 | 75 | 100 |

| F  | M  |   |

| 5  | 0  |   |

EXERCISE FREQUENCY

| 4+ WEEK | 2-3 WEEK | 0-1 WEEK | NEVER |

| INCREASE | SATISFIED | REDUCE | DISLIKE |

| 0   | 5   | 10  |   |

CHANGE EXERCISE FREQUENCY

POPULAR EXERCISES

- Push-ups
- Strength-building
- Tones
- Stretching
- Walking
- Weightlifting

Prototype Evaluation

Players use arm gestures to "control" the avatar's movement in the video game. We prototyped the game using Unity, Maya, C Sharp and Javascript. We conducted user evaluations of the prototype with the help of a retirement community. We used the facility's equipment and space to conduct the session. We also enlisted the help of the Wellness Coordinator to advertise about our evaluation session.

Prototype during user evaluation

The Avatar and the scene are displayed.

Users perform kayaking gestures.

The kayak moves forward in the river. User can collect coins and track time.

Finish line is reached with time and points.

Results

DO YOU FEEL THAT YOUR CURRENT EXERCISE IS TIRING?

| No | Somewhat | Yes |

| 0  | 5  | 10  |

DO YOU FEEL THAT YOUR CURRENT EXERCISE IS FUN?

| No | Somewhat | Yes |

| 0  | 5  | 10  |

DO YOU LIKE PLAYING VIDEO GAMES?

| No | Somewhat | Yes |

| 0  | 5  | 10  |

Design Principles

FAMILIARITY

We chose kayaking as the exercise game as most of the elderly are familiar with kayaking experience.

EQUITABLE USE

Some of the elderly are in wheelchairs. We chose a game that can be played while seated.

EASE OF USE

Only a few easy-to-remember gestures are required to control the game.

Feedback

- Indication of user's location via a map
- Reduce the duration of the game
- Increase/decrease rowing speed
- Obstacles along the course
- Better movement synchronization
- Add weights to the oar

Our Learning

- Establish good rapport with the community
- Wizard of Oz technique works better if users are novel to the technology
- Accessibility of the game can be improved (i.e. legally blind)
- Interviews are better than surveys to collect data from senior users

Future Work

- Connect the game to Kinect
- Difficulty levels
- Customization
- Feedback on completing proper gestures

- Proposed System Diagram
- Game Play

PSYCHICS 6750 Human Computer Interaction