

Networked Exercise Game for Preventing ACL Injuries



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Project Overview



- ❧ Build an interactive, networked game to help prevent ACL injuries in female athletes.
- ❧ Analyze student athlete survey data.
- ❧ Develop the first networked game: Paddle.
- ❧ Validate the game movements for Paddle.

Objectives



- ❧ Previous Work
- ❧ Survey Data
- ❧ Paddle Game
- ❧ Movement Validation
- ❧ Future Goals
- ❧ Questions

Previous Work



- ❧ Two previous exercise games: Happy Tiger and Simon.
- ❧ Student survey data collected from high school athletes.

Student Survey Data



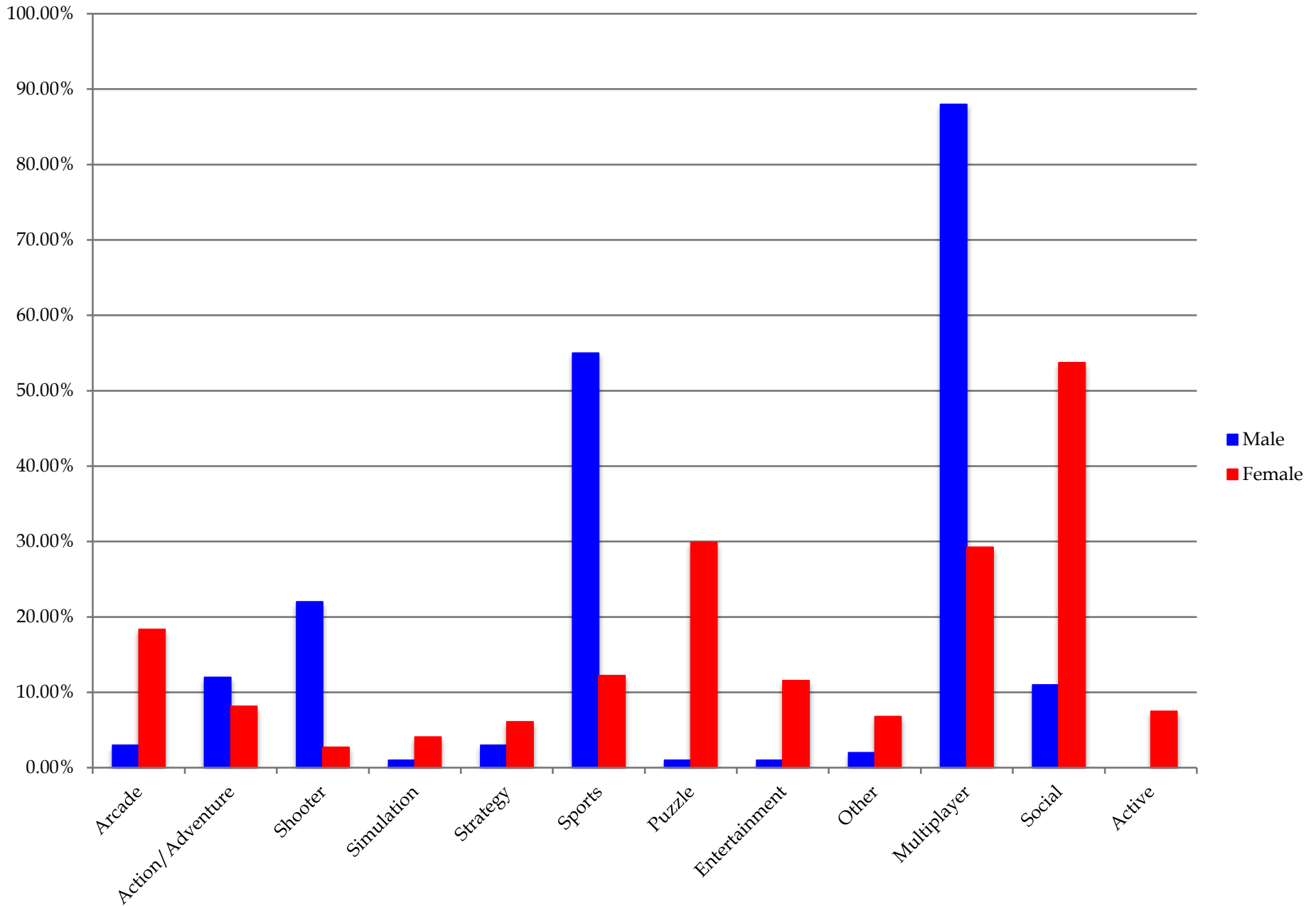
- ☞ Student survey data was analyzed to determine, categorically, the types of games that students like to play.
- ☞ This information can be used to produce a game that is appealing to the target audience of high school athletes.

Student Survey Paper



- ❧ This type of information could not be found in current literature and could be useful for future research.
- ❧ Began work on a paper with Doctor Dale Fitch and Mr. Joe Griffin.
- ❧ Analyzed survey data and looked for trends.

Male & Female Data



Paddle Game



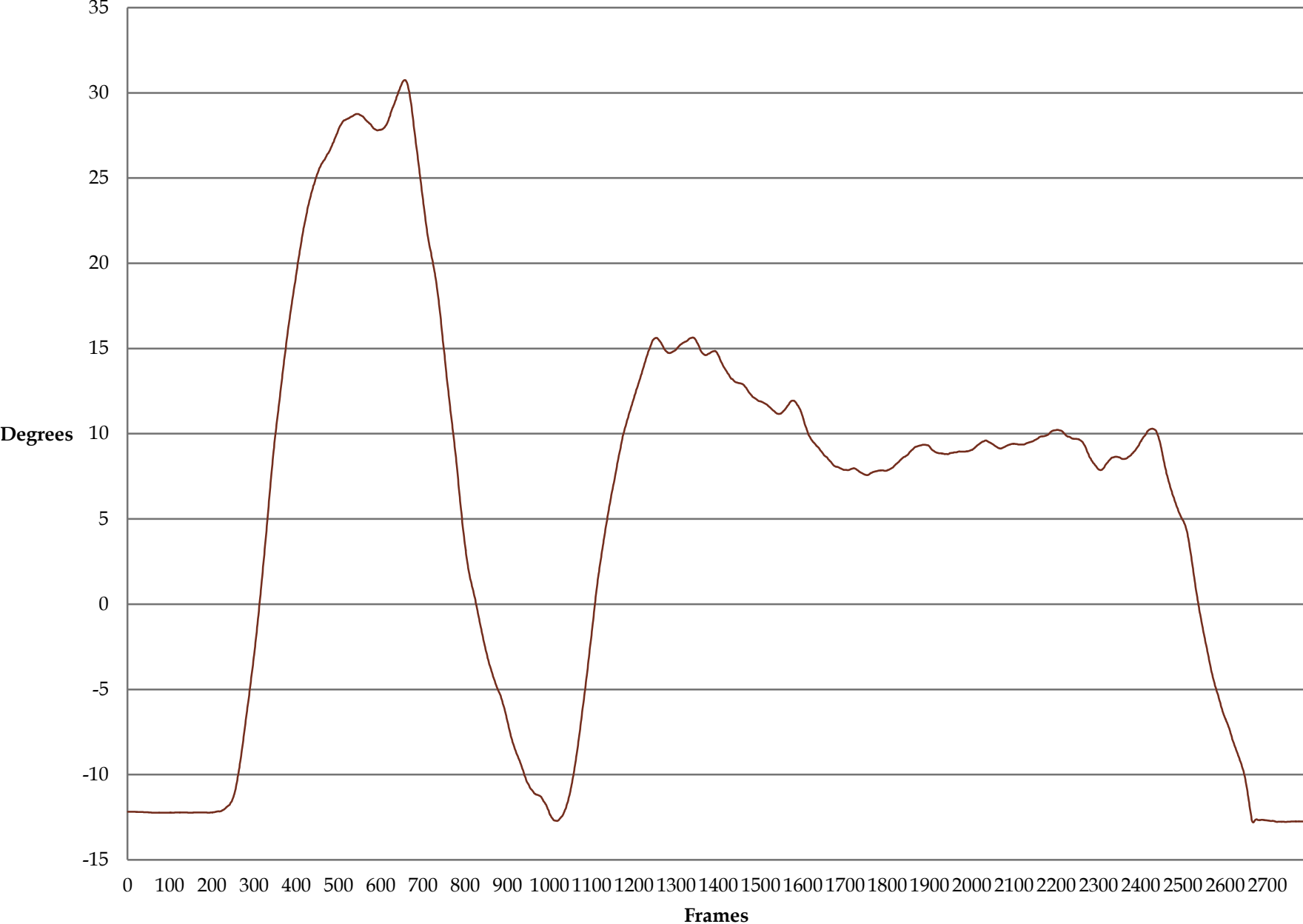
- ❧ First networked exercise game, Paddle.
- ❧ Two player game that has players controlling paddles that bounce a ball back and forth in an arena. Players gain points by getting the ball past the other player's paddle.
- ❧ Game is controlled by leg lifts and has mobile versions for Android and iOS as well as a MS Kinect version.

Movement Validation

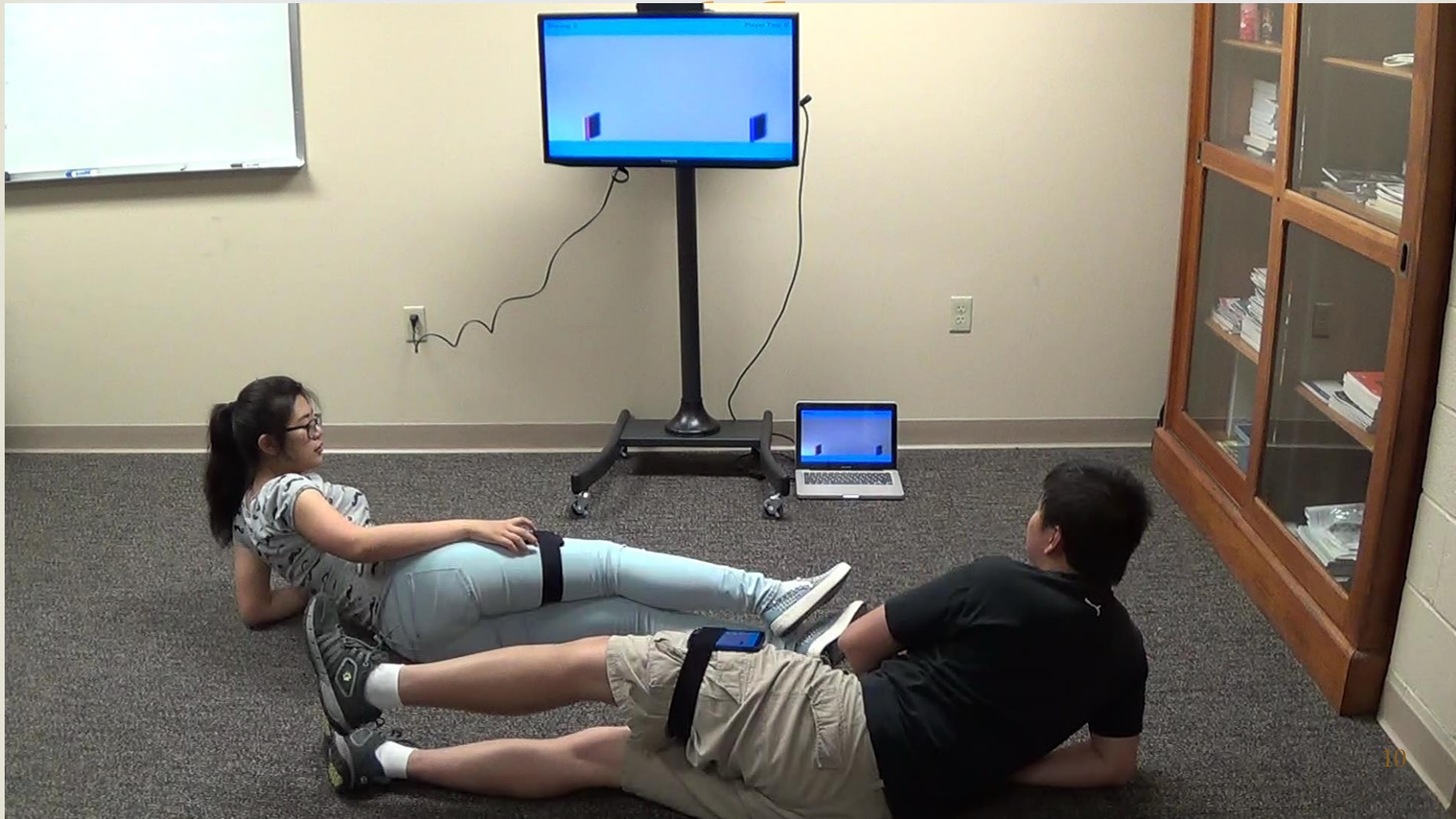


- ☞ Three subjects were instructed to move the paddle around the arena, moving it to the top of the arena at least once.
- ☞ Two subjects had data within the desired range, one did not. This could be due to vague instruction.
- ☞ Further validation would be helpful and should involve more subjects.

Subject 1 Validation Data



Game Demonstration



Future Goals



- ❧ Add a virtual agent to the Paddle game to allow for single-player use.
- ❧ Finish survey data paper and begin work on exercise game paper.

Questions?

