Mission ISS XR Study

A study about adapting to micro-g in XR

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Introduction

- How do participants adapt to a simulated micro-g environment?
- Efficiency and stress levels were evaluated for mission situations on the ISS

Scenarios

- 6 participants
  - 5 males, 1 female, ages 18-23
- Scenarios:
  - Participants located objects inside the ISS
  - Conducted an EVA
- Subjects were given a pre- and post-survey
  - Demographics
  - Previous motion sickness
  - Experience with VR

Overall Rubric Results

Evaluation Rubric	Average	Standard Deviation
Motors Skills	3.3/5	1.2
Navigation Skills	3.5/5	0.5
Stress	3.8/5	1.3
Mission Focus	4.8/5	0.4
Overall Function	3.8/5	1.1

Methods

- 4 trigger events per scenario
  - Ex. Alarm sounding starting the crisis on the ISS
- Measurements
  - Predetermined rubric graded motor and navigational skills
  - Time to locate objects and finish the scenario

Results & Analysis

- 4/6 participants adjusted well to XR simulation
- Simulation sickness in 2/6 participants
- On average participants were able to focus on the task
- Reaction time and motor skills were consistent between the simulation and reality