# Digital Media Research

Digital Media's research focus is in the multidisciplinary area of creative computing, which lies at the intersection of artificial intelligence and machine learning, serious and fun gaming, and cognitive modelling in extended reality. The research enables the use of wearable technologies in developing IoT apps in several areas, such as mobile e-health and e-fitness, digital games, 3D computer vision, and computer generated music, achieved through the application of HCI, gamification, digital asset accessibility design and management, and other relevant techniques.

# Altruism and Selfishness in AI agents
# Believable AI agents in games

## Selfish

Keeps everything, gives nothing away.

## Perfect Substitute

Gives everything away when the price of giving is low. Keeps everything when price of giving is high.

## Leontief

Aims to keep balance and equality

Reinforcement Learning: Proximal Policy Optimization (PPO)

# GATE – a Serious Game for raising awareness of WCAG

| WCAG Guidelines | | Game Scenarios | |
|---|---|---|---|
| Perceivable | Text Alternative | Mystery Box | |
| | Time-based Media | Mystery Box | |
| | Adaptable | Keys and Doors | Ground Floor |
| | Distinguishable | Tactical Assassination | |
| Operable | Keyboard Accessible | Discovery & Coordinated Action | |
| | Enough Time | Timed tower defense | Floor 1 |
| | Seizures | Loss aversion & Interactive Narrative | |
| | Navigable | Discovery | |
| Understandable | Readable | Puzzle | |
| | Predictable | Room Escape | Floor 2 |
| | Input Assistance | Connect the dots | |
| Robust | Compatible | Connect the circuit | Floor 3 |



Hallway with doors leading to Game scenarios
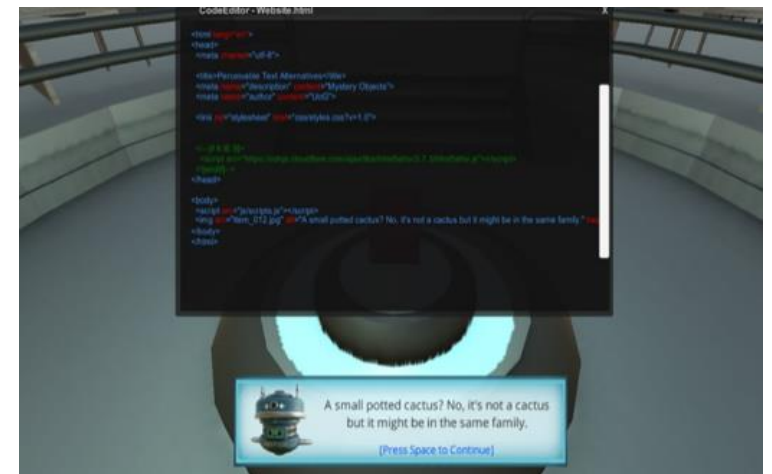


A Mystery Box game scenario in one of the rooms