TOUSHAL.S. SEWRUTTUN

tsewrutt@unb.ca
LinkedIn | tsewrutt.com

PROJECT HIGHLIGHTS

CALENDAR SCHEDULER, 2024

Developed a calendar web application for the Canadian Engineering Leadership Conferences, enabling over 200 engineering students to manage personalized event schedules throughout the conference.

Skills: react, postgresql, node.js, api, tailwind.css, html, cloudflare, digital ocean, vercel
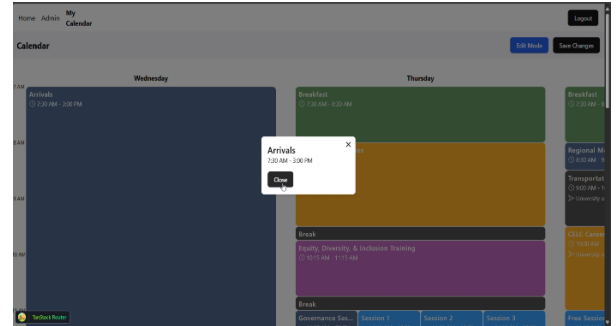

DANCE XR, 2024 - PRESENT

Dance XR allows users to capture, edit, and sequence dance moves using intuitive mixed-reality controls. Worked with an AI model to create a markerless motion capture system.

Skills: mixed reality, unity c#, inverse kinematic, animation rigging, motion capture, spatial computing, pose-estimation

CROSSHAIR HUE: TARGETING PERCEPTION VARIATIONS, 2023

Explored how alterations in crosshair colors influence target and background perception, aiming to enhance overall shooting accuracy and adaptability.

Skills: crosshair, background, color, visual targets, color combinations, visibility enhancement, colorblindness
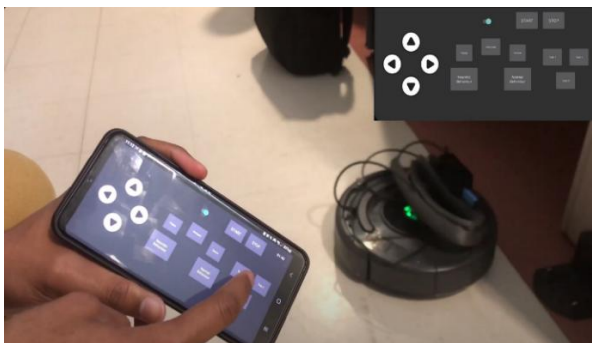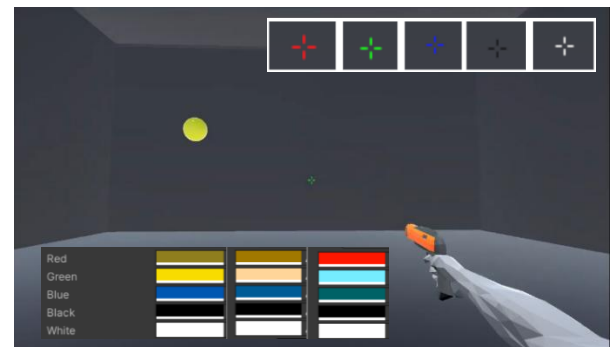
ROBOTS IN THE HOME, 2023

Studied how neurotic behaviors in autonomous robots affect human willingness to maintain them, using experimental testing and a remote-control app. (*Publication in progress*)

Skills: human-robot interaction, human behavior, autonomous robotics, teleoperation, experiment design, qualitative/quantitative analysis

WORK EXPERIENCES

University of New Brunswick – HCI Lab   May '23 — Present
Research Lead Developer, Spandrel Interactive

- Guiding a master's student as they collaborate with me on the human tracking process of the project.
- Developed a precise markerless motion capture system using RGB Cameras.
- Developed seamless communication between Windows Batch Scripts, Python and Unity App through networks.

Research Associate, Fredericton, NB

- Designed and executed a study investigating the impact of robot neuroticism to promote robot maintenance.
- Developed a mobile application to control the robot using React, HTML & Kotlin.

TactiX   March '24 — April '24
Unity Developer, Fredericton, NB

- Developed an interactive VR environment in Unity to enhance user experience with haptic feedback on Meta Quest 2 and SteamVR.
- Integrated real-time haptic responses to provide immersive, tactile feedback on virtual interactions.

University of New Brunswick

Teaching Assistant: Introduction to Game Development   January '23 — April '23

Residence Assistant, Fredericton, NB   August '22 — April '23

- Assisted students who lived in UNB Residences by building a welcoming community to all residents.
- Developed and coordinated educational programs for residents.

                                    2019 — 2022

UNB Conference Services

Summer Manager, Fredericton, NB

- Managed team of employees, daily progress reports, and overall project planning.
- Coached staff on strategies to enhance performance and improve customer relations.

GRANTS & CERTIFICATIONS

Mitacs Research Funds (*Title: AI Improved Markerless Motion Capture for Dance*)

Bachelor of Computer Science (2023)   University of New Brunswick

Diplôme d'études en langue français B2 (2017)   Alliance Française

Model Commission on the Status of Women Certificate (2016)   Terre Rouge S.S.S

REFERENCES

Prof. Daniel Rea (Research Supervisor)
Email: daniel.rea@umanitoba.ca

Jeff Mundee (CEO @ Spandrel Interactive)
Email: jeff.mundee@unb.ca

Prof. Scott Bateman (Director @ SPECTRAL Institute)
Email: scottb@unb.ca