John Lee

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https://github.com/tedlee21

Technical Skills

Languages: Java, C++, C, C#, Python, HTML, Swift, R, Javascript
Software: IntelliJ, Visual Studio, Unity, Xcode, Github, VS Code, Microsoft Office, Adobe Photoshop

Technical Experience

Personal Game Project (C#, Unity) — *Jul. 2021 - Present*

- Creating a **retro RPG** style game in Unity using **C#** scripts for movement and animation in **Unity**.
- Implemented **Observer pattern** to enable object interactions, collisions, dialogue and movement locking.
- Designed and implemented custom sprite work using **Adobe Photoshop**.
- Currently implementing 2D Freeform lighting and scene-switching.

Image Editing Program (C++, VS Code) — *Jan. 2022 - Mar. 2022*

- Developed a PNG manipulation program by using **data-structures** and recursion in **C++**.
- Translated PNG images to a **tree-node** structure to enable node-mainuplation of pixels.
- Implemented various filters such as monochrome, spotlight and 'sketch' through pointer manipulation.
- Realized image flipping through **Depth First Search** on a queue of PNG pixel elements.
- Tested for **memory leaks** using Valgrind and obtained no lost memory.

Therapeutic Pet Desktop Application (Java, JUnit, Swing, JSON) — *Sep. 2021 - Dec. 2021*

- Developed a user-focused therapy tool for anxiety and depression in the form of an interactive **GUI**-based game using **Object Oriented Design**.
- Implemented observer panels enabling users to buy food for, feed, play, and talk to their digital pets.
- Created original sprites and all other GUI elements to implement through the **Java Swing** library.
- Gained mastery of **JUnit** testing for back-end features and 100% code-coverage.
- Enabled save files by implementing **persistence** through **JSON** files.
- Organized work with **GitHub** through commented commits.

UBC Engineering Course Projects (C++) — *Sep. 2019 - Apr. 2020*

- Engineered a cardboard chair for students in Africa by considering stakeholders, durability, and **sustainability**.
- Designed a mechanical claw using servos and steel sheets with the engineering process.
- Implemented C++ code for the Arduino Board to control servos.
- Led the design progression of the projects in a **team environment**.

Education

Bachelor of Science, Computer Science Major — *Sep. 2020 - Present*
University of British Columbia, Vancouver, BC

Bachelor of Applied Science, Engineering Major — *Sep. 2019 - Aug. 2020*
University of British Columbia, Vancouver, BC

Extracurriculars

UBC Solar Software Team — *Sep. 2021 - Present*

- Developed **firmware** in **C** for telemetry board to communicate with Radio and Cellular modules.
- Gained team experience through **Scrums** and coordinating deadlines.
- Assisted with race simulation design and debugging.

EMS Senior Physics Club — *Sep. 2018 - Jun. 2019*

- Co-founded the Earl Marriott Secondary Physics club and designed multiple projects for UBC, SFU, and KPU physics **competitions.**
- Led and oversaw the project of building a **hovercraft** out of easily accessible materials and cheap motors.
- Propsed a **light-weight** design using a styrofoam plate and plastic wrap for a seal.

Work Experience

Graphic Impressions Ltd. — *Apr. 2018 - May 2018*

- Managed the decal **production** lines as a production assistant in high school **Co-op** placement.
- Weeded, cut and pre-masked decals, labeled and shipped orders, and gained profficiency with Adobe Illustrator.

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