

James Karlsson

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Education

UNIVERSITY OF TECHNOLOGY SYDNEY

- Bachelor of Engineering (Honours) Diploma in Professional Engineering Practice
 - Major: Software
 - Sub-major: Computer Graphics
 - Current GPA: 3.50
- Diploma in Languages
 - Major: Japanese

PITTWATER HIGH SCHOOL

- Completed Higher School Certificate
- Received an InTech Award Nomination for Industrial Technology Multimedia
 - Awarded to HSC Industrial Technology major projects of an outstanding quality as deemed by the Institute of Industrial Arts Technology Education
- Received a Band 6 (>90% final mark) for Industrial Technology Multimedia

Experience

P&P GLOBAL EXPANSION SERVICES (2014 - 2019)

- Graphic design, web development, and general IT support
- Developed webpages, logos, infographics, and videos

Volunteer Work:

PITTWATER HIGH SCHOOL (2016 - 2017)

- Assisted teaching of Multimedia and Information Technology to Year 7 and 9 students

OTHER EXPERIENCE

- Automated aspects of email testing workflows for various newsletters
- Mentored students in basic to intermediate programming and computer science concepts

Software Projects

NETWORKED REAL-TIME PHYSICS DEMO

- Created a networked real-time physics demo where clients control and interact with physics objects in a shared physics environment

Software Projects (cont'd)

- Utilised interpolation and client authority swapping techniques to make physics interactions seem smooth and instantaneous across all clients, even with latency of up to 1000ms
- Written in C# using Unity

MOVIE KIOSK

- Created a simulated movie kiosk application where customers use a graphical user interface to explore a catalogue of movies to rent and return
- Administrative functions such as viewing, adding, and removing customers and movies from the database were also implemented in the application
- Written in Java and FXML using JavaFX

DIALOGUE EDITOR

- Designed and developed a node-based dialogue editor to streamline the writing of dialogue for interactive fiction and other applications
- Project files are saved as JSON but can have individual story paths exported to a script-like format
- Written in GDScript

VIDEO SHARING PLATFORM DATABASE

- Designed, modelled, and implemented a relational database for a fictitious video sharing platform inspired by YouTube and Vimeo
- Videos, playlists, tags, comments, paid content, user accounts, channels, and subscriptions between channels were stored and structured in a way that satisfied Boyce-Codd normal form
- Written in SQL using PostgreSQL

HSC ENGLISH QUESTION GENERATOR

- Created a Twitter bot that would randomly generate extended response questions for NSW HSC English (@HSCEnglishBot)
- Written in JavaScript using Node.js and Express.js

Technical Skills

- Languages: Java, C#, SQL, Python, HTML/CSS/JavaScript, C++
- Software: Git, Unity, Blender, Photoshop, Illustrator, Premiere, Excel, Word, PPT
- Other: UI design, software/systems testing, UML, database modelling, graphic design, video editing, 3D modelling, written communication