

CPD Supporting Document

Student Details

Student Name: Andre Pham

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Student Number: 31448232

Experience Details

Experience Duration: (at least) 445 Hours

Experience Timeline: July 2021 - Present

Experience Description:

Paid work as a developer at Cerulean Labs for the [Spaces](#) iPad app, including writing and debugging in the [Swift](#) programming language, and working/communicating in a team of developers.

During my time, I have contributed to a wide range of features, including (but not limited to):

- Line styles and endings for vector rendering
- The section tool (which creates 2D sections of a 3D mesh – also used in face editing for buildings)
- The cladding tool, including the underlying code/architecture that generates the 3D geometry (applies cladding to a building surface)
- Multi-face editing (editing multiple faces of a building at once)
- Continuous face editing (an extension to multi-face editing where adjacent building faces can be treated as a single face to create seamless transitions between building segments)
- Building footprint edge editing (where during vector editing, a building footprint can be edited by dragging an edge, as apposed to a vertex)
- Colonnade vector editing (editing the vector of which a row of columns follows)
- Site boundary editor (a tool which allows the input spatial parameters such as bearing, length, arc length, radius and angle in order to create and edit a site boundary)
- Dimension editing (selecting and editing a building's footprint edge and changing its dimension by typing in a new length, consequently editing the building footprint)
- Bounding box dimension editing (a feature where a building's footprint can have a bounding box, aligned with the footprint's orientation, and the bounding box's dimensions can be edited to adjust the building's footprint)
- Integrating context menus into the UI
- The 2D vector rendering engine and the supporting architecture around it

I have also learnt (or expanded my learning on) and employed a wide range of technologies, including (but not limited to):

- Swift - developer.apple.com/swift/
- UIKit - developer.apple.com/documentation/uikit
- SwiftUI - developer.apple.com/xcode/swiftui/
- Core Graphics - developer.apple.com/documentation/coregraphics
- Scene Kit - developer.apple.com/documentation/scenekit/
- Swift Packages - developer.apple.com/documentation/package-description
- Cocoa Pods - cocoapods.org/

I have also gained experience and put into practice many areas and concepts in development, including (but not limited to):

- 3D computer graphics
- 2D computer graphics
- Thread management
- Software architecture and patterns
- Source control tools and practices
- Applied mathematics
- Data persistence, including serialisation and version migration

Section for Employer

This section was written by the employer.

Campbell Yule – CEO Cerulean Labs Limited – campbell@ceruleanlabs.io

I confirm the outline of work that Andre has provided is a true record of the work he has carried out for the business. Andre's skill, proficiency and understanding have been exceptional, and he has made significant contributions to our product and business.