DANIEL GALBRAITH
PROGRAMMER
TECH ARTIST

CONTACT

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🌐 dangalbraith.dev

ABOUT

Dan is a programmer and technical artist who likes wearing as many different hats as possible. He's very tall, and really loves cats. Dan worked at Mountains and Spunge Games on several commercial releases, has built a number of Serious Games for Queensland universities, and occasionally tutors in a Games Design course. Previously, he worked on a co-op party game about very poor parenting called Think of the Children.

KEY PROFICIENCIES

Unity3D (C#)

HLSL & GLSL

Shader Graph & Amplify

Blender

Autodesk Maya

Photoshop

Substance Suite (Painter, Designer)

Firebase

Google Analytics

CURRICULUM VITAE

PROFESSIONAL EXPERIENCE - MAJOR ROLES

2019-2021 — **Mountains Studio - Melbourne**
Technical Artist

2017-2019 — **Spunge Games - Brisbane**
2018-2019 Designer / Developer
2017 Gameplay Programmer

2017-2017 — **Jammed Up Studios (Think of the Children) - Brisbane**
Gameplay Programmer, Technical Artist

2016-2020 — **University of Queensland Engineering Faculty - Brisbane**
Interactive Experience Designer, Programmer

PROFESSIONAL EXPERIENCE - MINOR ROLES

2020-2020 — **Minerals Council of Australia - Canberra**
Game Design Consultant

2017-2019 — **Queensland College of Art - Brisbane**
Contract Programmer
Tutor: Bachelor of Games Design
(Serious Games, Experimental Games)

KEY SKILLSETS

Rendering
- » Write HLSL and GLSL shaders, both by hand and using node-based editors
- » Build custom and non-PBR lighting solutions (voxels, custom shadowcasters, etc)

Tech Art
- » Build production tools, macros, and asset preprocessors to reduce bottlenecks in asset pipelines
- » Work extensively with Unity3D's PhysX implementation on mobile
- » Implement IK and procedural animation systems

Gameplay and Systems
- » Implement algorithms for proc-gen content (graph traversal, terrain gen, fluid sims, WFC)
- » Build robust cross-project systems designed for ease of use (localisation, UI flow, FTUX)
- » Do 'juice' and polish implementation (character controllers, character work, UI, VFX)
- » Design and implement responsive UI designs and layouts

NOTABLE PROJECTS

2020: Unannounced Project (Mountains Studio)
Role: Tech Artist, Rendering Engineer
Overview: A cosy, wholesome game about decorating your first apartment for iOS
- » Shader treatment, voxel-based lighting solution for user-placed realtime lights on mobile
- » Human AI behaviour system, where character could interact with arbitrary number of user-created items
- » UI State Manager, custom Localisation framework for TextMeshPro, global FTUX framework

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PROFESSIONAL ACHIEVEMENTS

Serious Games
Co-authored grant for the Minerals Council of Australia to commission a series of educational games about geoscience for Australian high-school students. The grant was awarded, and as of 2021 the games are currently in production.

Co-authored paper presented at Joint Conference on Serious Games 2017 in Valencia. Previous work published by Springer in LNCS 9894 (Lecture Notes in Computer Science- Serious Games Conference Proceedings 2016)

Media Recognition
Think of the Children received attention from a number of notable games media entities, including Rooster Teeth's LetsPlay, NorthernLion, TeamFourStar, and Larry 'Major Nelson' Hryb of Xbox Live.

EDUCATION

2013-2015 Bachelor of Games Design, Griffifth University (QCA)
With First Class Honours

NOTABLE PROJECTS (CONT.)

2020: Unannounced Project (Mountains Studio)
Role: Proc-gen Algorithm Developer
Overview: Unannounced project relying heavily on procedural generation to create believable towns and cityscapes from user-placed landmarks.
- » Generation of believable road networks between user-placed landmarks on an arbitrary terrain heightmap
- » Generation of towns and built-up areas surrounding landmarks and road networks

2019: Faily Rocketman (Spunge Games)
Role: Lead Developer
Overview: A physics-based vertical launcher game for iOS and Android
Primary Tasks:
- » High-level design of codebase and asset pipeline, liaison with external contractors
- » Data-driven design iteration using Firebase and Google Analytics, A/B cohort testing to refine meta and gameplay variants on a fortnightly basis
- » UI and UX design, adapting the franchise's distinctive look to contemporary design patterns

2018: Rev Heads Rally (Spunge Games)
Role: Tools and Systems Programmer
Overview: A physics-based cart racer inspired by 'MarioKart' for iOS and Android
Primary Tasks:
- » Created bespoke spline library for high-speed analytic lookup
- » Worked with level designers to create suite of spline-based tools for dynamic collider generation and object placement
- » Created track rendering system and custom compression formula for storing terrain data

2019: Think of the Children (Jammed Up Studios)
Role: Gameplay Programmer, Technical Artist
Overview: A local multiplayer, cooperative party game about difficulties of parenting, released on PC, MacOS, PS4, Xbox One, and Nintendo Switch.
Primary Tasks:
- » Gameplay Programming (Character controller, game state, AI for Hazards and child NPCs)
- » Tools and systems design, establishing asset pipeline for level and content implementation
- » Shader work, VFX, and in-engine animation
- » Development of cutscene and dialogue tech for story-based Campaign Mode
- » Narrative design and scriptwriting for game's Campaign Mode

REFEREES

Lo Maslen (Former Managing Director at Mountains Studio)
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Cherie Davidson (Former Lead Programmer at Mountains Studio)
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Shane Rypers (Former Designer/Developer at Spunge Games)
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