

# Linus Langels

Game Programmer

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## Summary

My passion has always been to create games and software that i myself want to use. The coding philosophy i follow is to create more with less, but never be afraid to dive into the low level mechanics when needed. I love taking an idea or interesting theory and seeing it become something practical that people can enjoy.

## Core Qualifications

- Large system architecture.
- General gameplay programming.
- Linear algebra, vector math, trigonometry, calculus.
- Rendering.
- Shaders.
- A\* pathfinding, graph and logic grid searching.
- Texture filtering algorithms.
- Behaviour trees, rudimentary AI/SI.
- Animation systems, retargeting, IK.
- Agile and iterative development.
- Working in teams and coordinating efforts between team members.

## Technical Skills

- **Languages:** C, C++, C#, Java, Python, Assembly, GLSL, HLSL
- **OS:** Windows, OSX, iOS, Android
- **SDKs/Engines:** Unity3D, Unreal, iOS SDK, Android SDK, OpenGL, DirectX, QT
- **IDE:** Visual Studio, Monodevelop, XCode, Android Studio, Eclipse
- **Version Control:** GIT, SVN, Perforce
- **Misc:** Self made 3D engines and APIs, in-house engines, SWIG

## Work Experience

### S2 Games (March 2011 - November 2012)

Worked as a consulting rendering and animation programmer.

Primary work done remote from Sweden but some from location in the US.

#### Responsibilities:

- Rendering pipeline and ingame cinematics logic.
- Shader programming.

## **Plotagon (December 2012 - Current)**

Started as a game programmer, and eventually became lead programmer.

### **Responsibilities:**

- Designed and programmed most of the systems used in Plotagon products.
- Realtime DirectX and OpenGL screen capture, H264 and AAC encoding.
- Spatial analysis tools and logical grid searching for realistic movie camera placement.
- Mobile user interface framework written in c++ with cross platform SWIG ports for C#, to be used in Unity(iOS, Android).
- Multi-platform "Make" build pipelines for native c/c++ libraries.
- Optimized GLSL shaders for mobile. With support for DoF and FXAA.
- Custom binary file format that can serialize any game asset including scripts.
- Dynamic content system with support for modding and in-app downloading.
- Integrated native c++/OpenGL/DirectX texture handling in Unity(ASTC, PVRTC, DXT). In order to get around limitations with runtime encoding/decoding.
- Audio engine with built in ogg vorbis file streaming.
- Facial animation system, optimized for mobile.
- Retargeting animation data between models.
- Convert phoneme data into lip-synch animation.
- Text to speech integration.
- Low level and low latency microphone recorder with phoneme detection.
- Texture tool that combines textures and lighting data into bin packed atlas.
- Code review and team planning.
- Misc: Character creator, text parsers, tooling, deployment.

## **Education**

**Umeå University (2007-2010)**

Computer Science