

Esther Tonks

C++ Programmer | Software Developer

📍 Berlin, Germany ✉ esther.tonks@gmail.com in <https://www.linkedin.com/in/esthertonks/>

Website: <https://www.esthertonks.com> **Nationality:** British with German Permanent Residency.

- I am a versatile C++ application developer based in Germany with a background in producing user software in various industries.
 - I have considerable experience of developing and testing C++ applications and have a reputation for developing well high quality, dependable and user friendly applications.
 - I have considerable experience of handling large code bases, and like nothing better than to expand my existing knowledge into new areas.
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Key Skills

- C++/STL
 - Teamwork
 - Performance Analysis
 - Software Design
 - 2D/3D Graphics
 - Unit/System Testing
 - Refactoring
 - GIT/SVN
 - Native English/C1 German
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Professional Experience

GOETHE INSTITUT AND INDEPENDENT STUDY, Berlin, Germany

Nov 2021 – May 2024

German Proficiency and Programming Projects

- **I achieved my half of the goal myself and my partner set after the COVID-19 pandemic** to dedicate time to improving German proficiency and better integrating into German culture, while continuing a career-long habit of working on personal programming projects.
- **I passed the Goethe-Zertifikat C1 German exam** after taking classes at the Goethe Institute in Berlin.
- **I used full-time self-directed learning**, initially preparing for the C1 exam, and subsequently working on personal programming projects such as developing a Real-Time C++ Ray Tracer, showcased on my website and GitHub (see end of CV for link).
- **I traveled extensively throughout Germany** to experience its diverse culture and landscapes.

BINARY SPACES, Berlin, Germany

Apr 2018 – Oct 2021

C++ Software Developer

- **I was part of a team developing an SDK which allowed users to create accurate 3D simulations** for manufacturing, and in particular I took ownership of the collision detection system. I also contributed to the comprehensive suite of system and unit tests.
- **I was responsible for** addressing queries from an important external customer, including profiling and fixing performance issues and investigating complex bugs in the simulation, mesh algorithms, rendering and input.
- **I quickly mastered the collision detection system** under the mentorship of the original developer, taking ownership after their departure.

- **I did a considerable amount of work refactoring** the collision system for readability and usability purposes.
- **I spent 4 months prior to leaving the company training and mentoring** my successor to be confident to take over responsibility of the collision system on my departure.

STORECAST, Berlin, Germany

Dec 2017 – Jan 2018

Senior C++ Developer

- **I was hired to develop and improve the cross-platform C++ API for the Juke music app** for MediaMarkt/Saturn. All app developers were made redundant shortly after I joined due to the company losing their app development contract.

MXDN MUSIC, Berlin, Germany

Sept 2016 – Nov 2017

Mobile App Programmer and Start-up Co-founder

- **I was a co-founder of a start-up aimed at gamifying music creation.** I worked with the game designer and art designer on the Mixdown App demo until funding ran out.
- **I extended functionality and enhanced user experience**, learning the HAXE scripting language and implementing platform-specific features like video in Objective-C.
- **I migrated server code to AWS** to enable cloud-based music mixing using AWS Lambda.
- **The app won the startup pitches at the STHLM Tech Meetup Pitchoff** in Stockholm in April 2017.

VARIOUS, UK and Berlin, Germany

2014 – 2016

IOS Developer

- **I moved into mobile app development after the closure of Blitz Games Studios.** I developed the 'Housepack' app for a client as well as self-designed apps for the app store. I also worked on app development for Zalando in Berlin for a short time, but jumped at the chance to help a former colleague with their fledgling start-up MXDN Music.

BLITZ GAMES STUDIOS, Leamington Spa, UK

2012 – 2013

C++ Tools and Engine Programmer

- **I contributed to the development of the BlitzTech Engine and associated map and tools editor** for artists and designers.
- **I worked on the game animation system and improvements to the deployment system**, packaging game assets for different platforms and improving mesh and animation optimisation.
- **I implemented FBX loading** to replace the internal mesh file format.
- **I was part of a team that developed an art visualiser for Autodesk**, enabling 3D model export and viewing across PCs and iPads via cloud storage. I converted the engine asset packaging and deployment code to work with direct export from 3DS Max and collaborated with technical artists to ensure rendering consistency.

UPLIVION TECHNOLOGIES, Berlin, Germany

2011-2012

Co-Founder and C++ Programmer

- **I was a founding member of Uplivion**, developing a user-friendly API and intelligent streaming technology to run boxed C++ games in web browsers. Despite initial achievements, the company closed due to funding challenges.

- **I worked on our multithreaded streaming module and http package downloader**, as well as contributing to various other areas of our SDK and writing bindings for game engines.
- **See the following links for more information:**
 - [Uplivion at FU Berlin \(German\)](#)
 - [Uplivion Project](#)

JAGEX, Cambridge, UK

2007-2010

Java Tools Developer

- **I developed and maintained in-house software applications for Jagex's bespoke game engine**, enhancing the 3D mesh editor and other tools in collaboration with 3D artists and animators.
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Education

UNIVERSITY OF TEESSIDE, UK

BSc Visualisation: 1st Class Honors

- **I worked as an intern C++ Tools Programmer at Reflections (Ubisoft)** during the third academic year, improving and maintaining various in-house software applications.
- **I completed C++ projects in** rendering (DirectX, OpenGL, software), Animation Programming, Visual Effects and Procedural Programming, Games Physics, AI, Maya Plugins, and 3D Graphical Applied Mathematics.
- **Dissertation Project:** 'The Biome Wizard' application, which statistically predicts vegetation distribution from DEM data. [Project Link](#)

UNIVERSITY OF PLYMOUTH, UK

BSc Geography: 2nd Class Honors

- **Projects in Mathematical Vegetation Analysis**, Landscape and River Morphology and Process, GIS Systems.

Interests

I have recently developed a 3D Ray Tracer in C++. I have also previously developed a 3D Animation Editor. More details can be seen here:

[Ray Tracing Project](#)

[Animation Editor Project](#)

I am currently investigating writing plugins for Unreal Engine and additionally am learning Python.

I enjoy traveling and exploring new places, and have traveled extensively across Germany over the past two years.