Vasyl Horbachenko

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Skills

Languages: C#, C++, C, HLSL, MSIL, Lua, Python, Lisp

Platforms: Desktop (Unity, OpenGL), Mobile (iOS, Crossplatform)

Applications: Unity Editor, Blender, git, IntelliJ platform, VS, PlantUML, Jira, Gitlab, doxygen

Language: English (Advanced), Ukrainian (Native), Russian (Native)

Miscellaneous: git Flow, testing (unit, UI, integration), UML, CI

Work Experience

- **Build1**   Remote
  Unity Developer   *December 2020 - Present*
  Working with a team of game designers & programmers to develop a number of video game prototypes.

  - Experience with **il2cpp** and **webgl**
  - Lots of script optimization due to **webgl** nature
  - Multiplayer code development

- **Self-employed**   Lviv
  Independent Game Developer   *December 2019 - December 2020*
  Implementing ideas and working on learning projects revolving around game development and 3D graphics (see *Other Notable Projects* down below).

  - Development using Unity Engine
  - Reverse-engineering Unity games
  - OpenGL and C++ game engine development, scripting language integration (Lua)

- **Globallogic**   Lviv
  Flutter developer   *Aug 2019 - December 2019*
  Working on a number of "proof-of-concepts" with **Dart**/**Flutter**, mainly revolving around Bluetooth and native plugin communication.

  - Adopting existing BLE communication code as a Flutter plugin, designing communication layer between native and cross-platform
  - Making a flutter application that uses forementioned plugin to communicate with Bluetooth device

- **Globallogic**   Lviv
  iOS Developer   *Jul 2017 - Aug 2019*
  Developer (and occasional backing team lead) of a large healthcare-related Bluetooth application.

  - Coordination between 4 teams in different locations; the application was a *"connecting piece"* bringing everything together
  - Full blown QA: automated tests, unit tests, integration tests & manual runs
  - Mobile team consisted of 10+ people (around 50-70 in total for the whole project)

  My responsibilities on the project:

  - Core **BLE** interactions runtime architecture & implementation
  - Firmware-over-the-air implementation, sending binary images over BLE using custom TCP-like protocol
  - Bluetooth communication debugging using **Frontline BLE sniffer**
  - Separating the application codebase into an **SDK** for a family of medical devices
  - Occasional backing Team Leading and team coordination

- **OpenDrive** Remote
  macOS Developer *Dec 2015 - Jan 2017*
  Developer of a cloud storage client application, providing FS-level access to the cloud drive (similar to *Apple's iCloud*).

  - Massive rewrite to bring the application to modern standards (old codebase was compromised by macOS *System Integrity Protection*)
  - Custom virtual filesystem built upon **osxfuse**
  - Integration with Finder via **Apple's Extension APIs**
  - *rsync-like* application to run in the background and synchronize between local and cloud directories

- **StarOfService** Remote
  PHP Developer *Sep 2014 - Jun 2015*
  Backend server developer of a web service.

  - Lots of backend code profiling & optimizations, **memcached** introduction to make page generation faster
  - Custom **Symfony & Doctrine** patches to support localization and internationalization (the project was built upon Symfony 1.4)
  - Leading internationalization development team consisting of 3 developers

- **Web Production, outsource** Chernigiv
  PHP Developer *Apr 2012 - Jul 2012*
  Internship program during the university summer break.

  - Worked on a large city portal
  - Web full-stack development using internal framework

Other Notable Projects

- **OsaVR** Opensource
  Creator *August 2020 - Present*
  Open-source Unity application to simulate *9K33M Osa SAM System* with target of making a VR game out of it.

  - Unity HDRP project with custom assets
  - X-Band Radar real time simulation with radar cross-section approximation based on target mesh, all running on GPU as a custom renderer pass
  - Lower-level plugins written in C for GPU rendered radar images processing, running in separate threads
  - Custom shaders for instruments made with both Shader Graph and HLSL

- **openrunner** Opensource
  Creator *June 2020 - Present*
  openrunner is a open-source OpenGL implementation of collectible card game *Android: Netrunner*.

  - Game engine written in C++, with Lua API for the game logic implementation
  - Fully cross platform source code

- **UIExtenderLib for M&B Bannerlord II** Opensource
  Creator, maintainer *April 2020 - Present*
  Library for modification developers to solve problems of multiple mods altering same game files.

  - Application code reverse-engineering
  - MSIL patches made to be resursively added by each user of the library
  - Runtime assembly builder to be used with Harmony

- **Dynamic campaign engine for Digital Combat Simulator** Opensource
  Creator, maintainer *May 2018 - Present*
  [DCS Liberation](#) windows standalone application that generates mission files for aircraft simulator. Written in Python.

  - A community project, currently counting 2 maintainers and 4 contributors
  - Steady number of active users, total 70k hits on bulletin board thread

- **PlayStation Vita Homebrew Development** Opensource
  Creator, maintainer *2016*
  Participated in development of [vita-moonlight](#), an NVIDIA moonlight streaming client for PlayStation Vita:

  - Improvements over base version, most notably UI and user configuration options
  - Maintaining, code peer-reviewing
  - **C**, **stdlib** and **Sony's SCE lib**

  Created [advremap](#), OS plugin to remap the hardware keys and create virtual touchscreen keys.

  - **taihen** function import hooks
  - **C**, **stdlib** and **Sony's SCE lib**

Education

- **Chernigiv State Technological University** Chernigiv, Ukraine
  Computer Science, Bachelor *Sep. 2012 - May. 2017*

Awards

- **Junior Academy of Sciences of Ukraine Scholarship** Kyiv, JASU
  Computer Science *2010-2012*
  Scholarship from [JASU](#), a Junior section of Ukrainian Academy of Sciences (during high school); works related to IT integration into the education process.

- **Product copyright registration certificate** Kyiv, JASU
  Certificate №40491 *2014*
  Was also awarded a copyright registration certificate as a result of my involvement in JASU.