

Vuk Džaković

I.T. Engineer & Game developer

Tel: (381) 65 67 18 666 Email: vukbyk@gmail.com

EDUCATION

Faculty of Electrical Engineering (ETF), University of Belgrade - *Master degree*

EXPERIENCE

- Programming:** Mainly C++ and C#, but also Java, MEL script, Bash script, Blueprints, Assembly, Python.
- Game engines:** Unreal, Unity, in-house game engine (based on C++, OpenGL, Bullet physics...)
- Libraries:** Bullet and PhysX physics, OpenCV, QT, SDL2, Assimp, OpenGL legacy, Qt.
- Platforms:** PC, FreeBSD, Android, Oculus Rift VR, Google Cardboard, Microsoft Kinect, Linux (Debian, Suse, Gentoo, RHEL, Ubuntu, Mandrake successors...), Raspberry Pi, Arduino, Embedded systems.
- Tools:** Visual Studio, Eclipse, Qt Creator, Maya, Substance Painter, Substance Designer, Gimp, Git, Svn, Xen, VMware, Virtualbox, RPM, Deb.
- Skills:** Programming, A.I. design, behavioral trees, 3D modeling, gameplay design, particle system, VFX, Linux system administration, virtualization, robotic locomotion, real time stereoscopic vision.

EMPLOYMENT HISTORY

- | | | | |
|----------|--|----------|---|
| Oct 2016 | Munogu, Belgrade | Nov 2010 | Vectron Digital Systems, Belgrade |
| Jul 2018 | Product designer, Unity programmer | Jun 2012 | Linux developer, admin (casino management IS) |
| Dec 2015 | Superverse Industries, Belgrade | Sep 2008 | Dev63, Belgrade |
| Oct 2016 | Game developer, game engine programmer | Nov 2010 | Linux developer |
| Jan 2016 | 10slu, Belgrade | Oct 2006 | Vectron Digital Systems, Belgrade |
| Oct 2014 | Computer vision programmer | Jul 2008 | Linux developer, admin (casino management IS) |

PROJECTS

Superverse

Fast-paced arcade space shooter



A small team of not more than three members at the peak of development took part in the creation of this game without using any game engine, only C++, OpenGL and bullet physics were used as a base. My main tasks were gameplay design, working on a game engine primarily on integration of physics, A.I. (behavioral trees), level design..
<http://superverse-game.com/>
<https://www.youtube.com/watch?v=Ja5KeiZvIw0>

Pong wall

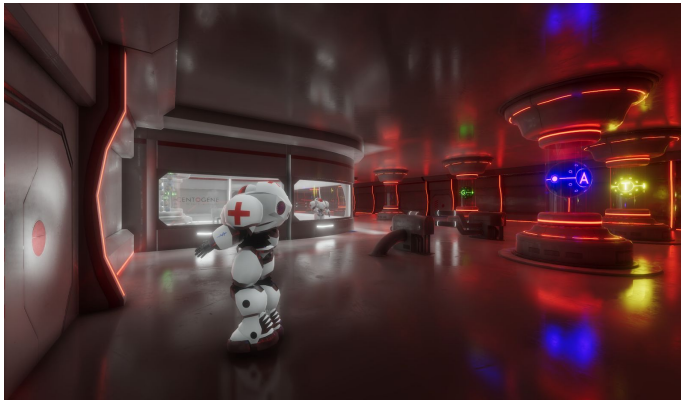
Augmented reality game EXIT music festival 2017



As one of the two-member team, I participated in the development of an augmented reality game using IR cameras, Kinect and Unity. In the chillout zone of the Exit Festival, visitors would have fun playing the game pong game on the free climbing wall.
<https://www.youtube.com/watch?v=STAetYW6BIg&t=90s>
Interactive visual effects were also a part of this project:
<https://www.youtube.com/watch?v=oWOXIdbR72Y&t=3s>

Centogene Detective

Virtual reality promotional game



Oculus Rift game that promotes science and the company that deals with the research of genetic diseases. The Player is the laboratory and needs to label mutated gene parts. I was in charge of overall development in Unity, character 3D model and partly for other art and design.

<https://youtu.be/g3JIC9D943c>

Point@ - Shop window interface

As a part of the Italian based company "Munogu Srl" team, I contributed as a Unity developer to the Kinect based App PointAt which is also an active product of the 'experience room' of the Italian Microsoft Technology Center in Milan. The project uses Kinect so that users can get information about the item in the shop window by pointing the hand. Demonstration at Italian Microsoft Technology Center:

<https://www.youtube.com/watch?v=fze43lOz3n4>

Sensory substitution device - Research project

Exploring the possibility of using computer vision to assist the blind in spatial orientation in everyday life. The focus is primarily on the use of sensory substitution from a stereo camera to describe the 3D image of the world through sound. A completely independent personal project from concept to realization. For the analysis of the image C++ is used with an OpenCV library, and for training and presentation with the sound Unity3D is used.

MISCELLANEOUS

- Driver's License
- Languages: English and Serbian
- Visual arts (painting and sculpting)
- Classic Hard S.F. (books, movies, games)

FAVORITE GAMES

Fallout (1, 2, New Vegas), S.T.A.L.K.E.R, SimCity 2000, The Lost Vikings, Warcraft (2, 3, TFT), Sudden Strike, Dota (Wc3 and 2), Command & Conquer, Starcraft (1,2), Lock On (all jets and Ka-50), World of Tanks, Total war (Shogun, Rome, Medieval 2), War Thunder (simulator), Mechwarrior (1, 2, 3, Online).

Technotise - Hoverboarding

Virtual reality racing game (development in progress)



VR futuristic racing game and my first independent project. Project is currently in its early phase. Inspired and based on Technotise Universe created by Aleksa Gajic in his comic and animated movie.

Full movie link:

<https://youtu.be/1rX0PAHpQGc?t=3644>

Interactive billboard - Advertising small street games

Munogu's company project. Using Unity and Kinect. Potential customers could play a small game, and if they win, they would receive a QR code that would allow them to make discounts on certain products or services. My primary duties were game interface design and gameplay design, as well as code implementation.

<https://vimeo.com/242270450>

Markerless mocap system - Graduate thesis

Control of the robotic arm in real time using only two webcams as motion capture system. Implemented on Linux using only C++ and OpenCV.

<https://www.youtube.com/watch?v=haylMlvjPDE&t=1s>

A.I. and robot vision - EURobot competition

Controlling movement, avoiding obstacles and finding objects of interest for autonomous robot in real time using only web camera as sensor.

<https://www.youtube.com/watch?v=WSwi-6o-5Y8>

- Enthusiasm towards new technologies
- Robotics
- Film d'auteur
- Inline skating, Biking, Swimming