

Curriculum Vitae

Mikael Jari Korpela

Personal Details

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Education

Machinefitter (Mechatronics) *Joensuun oppimiskeskus* 1998 – 2001

Ongoing Education

B.Sc. *University of Helsinki, Computer Science* 2003 – present

Languages:

Finnish: Native

English: Fluent in both speaking and writing

Military service

Signals batallion, Kainuu II/2002 (Summer 2002 – Winter 2003)

Rank: Signal man (Cannon fodder)

Me

My interest of computers stems from ID software Quake series, as a kid, I wanted to create games. At 16 years old I learned C from/with my brother, we toyed around with c/djgpp and dos6.22/h13 (320x200x256colors) graphics mode. My biggest achievement was to draw pcx image on the screen (and rotate it around middle point, unfortunately I did not know matrix math at the time, but only basic 2D trigonometry).

At university, I learned java, basics of software development, basics of c/c++, some random courses, databases..

I have desire work on gametech, script AI, path finding, create beautiful effects, make ultimate animation systems. That said, the only thing that does not interest me, are the monetization systems/schemes in games (important part, yes, but I would rather focus on fun and beautiful).

As a person I am a geek, technology and logic above all else. I prefer to work in/with teams. Pair programming, idea bouncing, exploration of new technologic frontiers!

Technical Interests

Of Computer languages, I have preference for C++ and Javascript. But everything has their uses.

GameTech, tools, engines, most of gametech interests me.

Automation / IOT, I think self driving cars are the future (game changer technology on many fields), automated hydro/aeroponics farms and overall robotics sounds interesting to me.

Technical Knowledge

C++

I've used C++ for several years, I use STL, I also try to adopt the latest standards.

JavaScript

I use javascript. The language itself is not as demonic as some people make believe.

With Javascript/html5 one can create cross-platform tools for scripting, text, animation, 2D/3D, for almost every imaginable thing. Just make all tools web based, and they'll work anywhere (maybe even on phones / tablets / wireless vr glasses).

Work experience

C++ Expert *KONE.*

2021 – current

Being part of simulation team. Developing people flow simulation, CI/CD and its related parts.

C++14/17/20, QT, msvc, python, powershell, windows, linux, unreal, aws, gitlab.

Senior Software Engineer *Basemark.*

2016 – 2021

Being part of a wonderful team and creating graphics engine, power analysis tool (usb power measuring), inhouse tools, launcher, benchmarks.. It has been a privilege. Plenty of philosophical discussions about life, technology, religion.

QT, C/C++, C#, javascript, python, actionscript2, linux, windows, mac osx, unity3D, cryengine, Rocksolid, Tensorflow.

Programmer *Optima service.*

2013 – 2016

Optima service is a phone/related gadget service company. I was recruited to help with android and desktop software development to extend the company to software research and development. I have learned some c#, javascript.. made desktop, mobile and web applications, and used plethora of skills. The products either help the core business or try to expand the business into new areas. We prototyped games in unity3D, created remote management system for android installations, and made several different internal projects (auction house system, helpdesk tools, shell script generator).

Senior Tools Programmer / Tools Programmer *Digital Chocolate ltd.*

2009 – 2013

Digital Chocolate is/was a mobile phone game company, that made games for non-smartphones and smartphones. I was recruited to the tools team. At first I did mostly iPhone platform feature additions/bug fixings, but later on also android and j2me.

At one point after organizational restructuring, I joined a game team, to make a new version of J2ME game "3D Rollercoaster rush underground". After a while I joined back a newly created tools team, and we created a gameswf clone, that could run flash animations on any opengl supporting platform.

I was promoted to Senior Tools Programmer at 2012.

We started to make a new cross-platform framework for future games.

Technically the core revolved around the idea of an entity system, a object would be represented by an ID (32bit signed integer) and components (graphics properties, animation properties, physics, scenegraph, audio properties) would be attached to ID.

The game update would then be propagated for each component type (so that all physics would be applied to all physics properties at one sweep, graphics updates in one sweep etc.). The advantages of this kind of system, if realized properly, would be the cache coherency, the less we have Lx cache misses, the better.

We used the framework to develop "Crazy Penguin Wars - Tiny duels", for which the framework was totally ill prepared.

I was involved in most of the core techs in the framework (audio, graphics, scheduling, loading, animation).

Software Engineer *Koodaripalvelut.com.*

2007 – 2009

I worked on several different clients for koodaripalvelut.com, mostly doing java, php and c++ development, ranging from 4 men entrepreneur companies to big multinational companies. Most of the projects were server side or development projects.

Software Engineer *Citrus solutions*

2006 – 2007

The only client that I had when I worked for citrus, was Igglo, where I developed the company website/erp in php.

Software Developer *CRD Systems.*

2006 – 2006

I developed 2 months, their php/java/c++ system, in hindsight I can say that the system was really professionally developed, but something drastic must've happened before I joined, as there was only 2 developers. The job prospects were poor, so I had to move forward quickly.

Game jams:

pinup boobieball-by-team-omnom



2013

Shortly after previous jam, we participated in boobjam. There were few different ideas, but finally we just started doing a pinball game. I experimented with the pixi.js framework in this project, and it delivered. I even created a map editor for the game (due to having too much time in my hands).

The latest version can be found from:

<http://icegem.net/flip/>

the-zombipeli-by-team-omnom



2013

Durning Assembly2013 I participated to Assembly Gamejam, the subject was zombies in scifi enviroment.. and and, We managed to create a game, where the player is a misplaced zombie in a spacecraft.

The latest version can be found from:

<http://icegem.net/the-zombipeli-by-team-omnom/>

Own projects

Tracker

2014 - 20xy



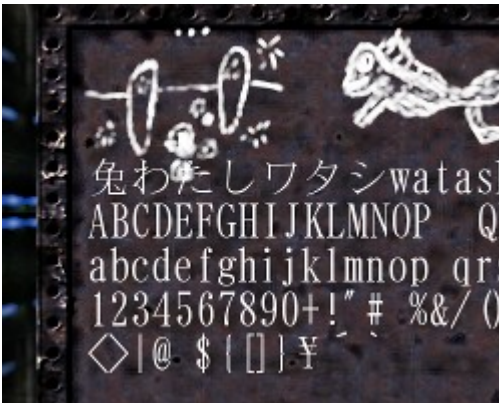
I've been away from c++ since summer 2013, so when someone came to ask about "how to accelerate raytracing with opengl" in #opengl ircnet channel, I decided to try to create my own raytracer. First I overengineered "application" system, then I went and started reading tutorials, and started coding. Currently the renderer only does balls, with reflections, but in future, it will render models, hdr and have all sorts of fancy acceleration structures.

<https://bitbucket.org/akin/tracker/>

<http://icegem.net/balls2.png> (balls2.png – balls10.png)

Ice

2009 – 2011



After being employed at digital chocolate, I started crawling to create an engine at home again, to test theories and make classes 'ready'.

I tried to follow the mantra "Don't design an engine, design a game", but that actually got sidelined, when a friend was programming his own UI system, and I started to compete with him in "how to do a UI architecture".

Temporal Escape

2009



I took a week off from work, to go into "Rapid Game Prototyping" course at the university. Our team was made of 4 people, and we came up with a 2D platformer game, where the player uses timewarp as a mechanic, to solve puzzles and complete the levels. To finish the project, there was only 1 week time, and finish we did, the prototype ran nicely on the computers of that time. And it was actually fun game.

Later on, we added some zombies, and rudimentary ai for the zombies.

Commercial games involved with

Crazy Penguin Wars - Tiny Duels



2012 – 2013

Penguin game, where players shoot, move and jump in turn based fashion. If the penguin is running low on ammo, no worry, you can buy new ammo and weapons with real money (once turned into penguin currency). My role has been mostly to develop the underlying technology, so that as many penguins can be rendered on screen, without compromising the pixel perfectness of the penguins.

3D Rollercoaster Rush - Underground



2010

In this rollercoaster game, you are against many many difficult obstacles.. You need to control your cart, too fast, and you fly off the track, too slow, and you might not get over that steep track.. In addition the game offers different modes, where fiery wall of flames will burn you, if driving too slowly.

My role was to code, debug, profile and optimize the game, to make it run smoothly on even really slow and memory limited devices (I learned a lot about integer math when doing this project).

Hobbies

Anime, I watch anime, more than tv. Attack on titan was wonderful series. Gundam Seed, The Irregular At Magic Highschool, Tokyo Ghoul.. All awesome series, that I could watch over and over again and again.

Bicycle, I try to use my bicycle whenever possible, in Helsinki, this just doesn't work all the time, summertime bicycle is a must, but I'd also like to use it in winters.. I actually do not want to live in a city without good bicycle lanes.

Wall climbing, 2016 Summer was over, and it was cold outside, so, I took a one year membership to a local climbing gym and still continue on that road.. I am one with the mountain..

Kendo, I haven't practiced kendo since 2006, but I'd like to think that I would be able to take it on once again, and smash people with my bamboo stick!

Programming, I practice programming at my free-time, when I have inspiration. Many of the projects fail and many times the project will never be finished. Inspiration, motivation, is paramount for successful project.

IOT, automation etc., I do oddball projects at home, aeroponics automation, networked audio cd player box, playing around with arduino or small linux boards.

3D printing, I bought a 3D printer Christmas 2018, I printed few things. Ultimately my goal is to incorporate 3D printing with toying around with electronic components, and create something like robotic arms, or the sentry bot from Portal, and maybe incorporate some larger IOT systems or artificial intelligence with them.

04.04.2024 Kerava

Mikael Korpela