

Anusha Dharmasena

Software Engineer



Mobile:

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Email:

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Work eligibility:

Permanent resident

SKILLS

C, C++, C#, JavaScript, HTML, CSS, ReactJS, NodeJS, RestAPI, Agile Scrum, Git, Japanese Language

PROFESSIONAL EXPERIENCE

Square One Laboratories Pty Ltd., Melbourne ([website](#)) – *Embedded Software Engineer/ReactJS developer*

FEBRUARY 2016 - TODATE

(Exposure: React.js, Webpack, JavaScript, CSS, Restful API design, Semantic UI, Node.js, Express, Free Pascal, Lazarus IDE, SQLite, Git)

- Currently developing a React.js SPA for the front-end of next generation embedded irrigation controllers. We are in the R&D stages at the moment.
 - The front-end is responsible for the following functions.
 - Designing irrigations systems conforming to a schema (output is an XML document which will be compiled by the backend to create an executable runtime)
 - Monitoring the current status of the system that is currently being executed
 - Overriding the automated events (*This is not implemented yet*)
 - Since this is still under development, I am unable to discuss deep down specifics of the product. However, the following technologies are either being used or have been used in the development.)
 - JavaScript ES6 features
 - Webpack & babel
 - Reflux
 - React Router
 - RESTful API design
 - Fetch API with CORS
 - Node.js + Express
 - Semantic-UI
 - Developing in FreeBSD
 - Successfully demoed an end-to-end working prototype running on a PC to a client.
- Designed & developed the **Sensor Log Visualiser** Windows application to visualise the sensor and event log data from existing irrigation systems.

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- The tool has been deployed to multiple sites.
- Has resulted in massive reduction in manpower to troubleshoot system issues.
- Designed & developed **Lead Time Calculator** Windows application to estimate the lead-times of electronic components used in the in-house products (internal use only).

Metatechno Inc., Japan ([website](#)) – Systems Engineer

APRIL 2012 - DECEMBER 2015

(Exposure: C, C++, C#, Agile Scrum, Version control with Perforce, Visual Studio, Multithreading, Hotspot analysis, Debugging)

- Improved the quality and functionality of the Canon **Windows V4 printer driver** to phase out the V3 driver.
 - Ported functionality of the V3 driver such as *polygon fill-path optimisation, half-toning (10-bit dither & error diffusion) and reduce toner utilisation*.
 - Analysed issues arisen with the elimination of intermediate rasterization process and prototyped alpha simulation to resolve them.
 - Analysed the output quality degradation claims of the new driver and collaborated with the *Form Manager* team to resolve them.
 - Contributed to team Wiki by explaining complicated algorithms in the ported code.
 - Mentored a young engineer about efficient programming and common coding practices.
- Designed a **PDF to SVG converter** with stringent requirements to kick start Canon's Live Paper concept.
 - Created a detailed document on the PDF to SVG conversion specification.
 - Designed and implemented majority of the conversion modules (Images, Tiles, Masks, Fill Paths and Stroke Paths).
 - Experimented with various SVG document layouts to determine the fastest rendering layout on mobile versions of Chrome and Safari browsers. The one we settled down with resulted in 77% of test data exceeding the rendering speed of the original PDF documents.
- Fixed quality degradation issues caused by excessive optimisation in the load balancing module of the printer driver.
- Developed tools to automate driver performance testing and detect over-corrected images uploaded to [Canon PhotoPresso](#) service.

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Metatechno Inc., Japan – *Software Engineer*

MAY 2010 - MARCH 2012

(Exposure: C, C++, VS2005/2008, Subversion, Object Oriented Design, Optimisation, MFC, WDK PREfast, VTune)

- Unified the code structure of the rendering module in the *Canon corporate cloud printing service* and the XPS driver in order to set a foundation for the development of the V4 driver.
- Extended the feature set of the Test Harness to support the testing of *half-tone printing, edge smoothing and toner aligning*.
- Analysed the existence of redundant print commands and optimised the processing flow to omit such.
- Developed a mechanism to compress metadata inside the rendering module to prevent print failures when poster sized documents were printed using Canon [Poster Artist](#) application.

Metatechno Lanka Company (Private) Ltd, Sri Lanka ([website](#))- *Software Engineer*

MAY 2008 - MAY 2010

(Exposure: HTML, CSS, PHP, JavaScript, AJAX, SQL)

- Developed web applications for internal use of the company, including a Management Information System using PHP, JavaScript and MySQL.
- Tested behaviour of the web applications by writing test cases and running each test case.
 - Managed to catch numerous validation issues that had escaped testing in the pre-alpha stages.

PERSONAL PROJECTS

- Personal website project ([link](#)) – The purpose of this was to learn and experiment with web technologies beyond React and to make it a portfolio. Source code is maintained on [GitHub](#) and hosted on GitHub Pages.
- Blog ([link](#))
- Expenses management app ([link](#)) – Started recently and planning to turn this into the portfolio product because the project I am working at work will not be a product for the general public. It needs a lot of work though.
- There are many projects that I have created for the sole purpose of learning React.JS, which are hosted on [GitHub](#).

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HOBBIES

- Playing First Person Shooters on the PC (Crysis 3 is my favourite)
- Learning about Web Development by taking courses on Udemy. Some of the interesting courses I have taken are:
 - Modern React with Redux ([link](#))
 - Advanced React and Redux ([link](#))
 - JavaScript: Understanding the Weird Parts ([link](#))
 - Learn and Understand NodeJS ([link](#))
 - Git a Web Developer Job: Mastering the Modern Workflow ([link](#))
- Following latest news related to PC hardware on technology websites, forums and YouTube tech channels.
- Blogging about day-to-day technology related thoughts and experiences.

EDUCATION

University of Colombo - School of Computing, Sri Lanka - *Bachelor of IT*

JANUARY 2006 - DECEMBER 2009 (Effective from 1 JANUARY 2010)

University of Moratuwa, Sri Lanka - *Bachelor of Science (Honours Degree in Electronic & Telecommunication Engineering)*

APRIL 2004 - FEBRUARY 2008 (Effective from 1 JULY 2008)

OTHERS

- Represented Sri Lanka in the 44th International Mathematics Olympiad (2003 Tokyo).
- Attended an Agile Scrum training programme at Val Research Institute, Japan.