**Name: MADHUMALAR**

A skilled software developer, expert in delivering end-to-end products with hands on to lead functional teams. Have 9 years of experience and worked with various organizations ranging from startups to industry leaders. I spent most of my career in providing technical expertise in development to deliver quality products. I actively contribute towards designing various products. Responsible for writing high- and low-level design specification documents that are used by development teams as references to develop the product.

* My skills include but are not limited to **Software Design, Analysis, and Application Development** of IoT applications, commercial software, and Mobile applications with good understanding of **C, C++, OOPS, UML**, Android, Visual Basic 6.0 and SQL.
* My Working experience on proof-of-concepts, helping teams to convert high level designs to programmable tasks, handling customer support.
* **IoT applications** development using node JS, Embedded C, Object-Oriented C++, **STL**, Exception Handling, information encryption and decryption using open **SSL**, **TLS** cryptographic protocols.
* Development experience in Authenticating application using **ZigBee, Bluetooth Low Energy (BLE)** / Wi-Fi modules with Cloud interfacing.
* Hand-on experience with **NoSQL database** to send data in **JSON** file DB format. Involved in code check-ins and code-checkout using **GitHub** repository and performs code reviews at regular intervals.
* iPlan product development gave me a strong experience in **C, C++,** where I involved in WBS task building structure which utilizes the core **Data structure linked list and algorithms**. This experience gave me the problem-solving ability and Impact analysis and root cause identification capabilities.
* iPlan is an End-to-End project Management like MS Project tool which helps me to gain **project Management domain knowledge** from Requirement gathering to deployment and support.
* My work under two big OEM clients Samsung and Philips gave a new **Mobile apps** domain experience by building proof of concept in **SHP, NXP and Android platforms**.
* Have provided key contribution for online mobile apps like mPayment, mPrayer, mNews, SMS Teaser Display. Implemented the screen design changes and navigations. Worked on **TCP/UCP socket programming** development of collection of information from the **network storage and content sink** will happen in a consistent timely basis.
* In Philips DVBS2 application developed the ADK integration of set top box and **DVB** communicationand **Glue layer** of communication between action script and ADK. Implemented and corresponding **DVBS2s native calls in C**. Glue layer development for interaction between ADK and Action script. Target testing is done by DVBS2s application in Philips TV.
* With my development experience in LG software, I gained knowledge on Memory optimization, **FSM state** implementations**, JNI calls, and** Widget **API developments** for WAC and JIL widgets. Got experience in **Java script, html coding, SQL lite** and knowledge on Web kit engines.
* Nikon client experience gave a familiarity in Semiconductor domain to develop various components of **Lithography** process in NSR software simulation. I mentored junior engineers to and worked closely with team to build **UML diagrams** and design. This helped me to gain expertise on **STL, Multithreading libraries and OOPS.**
* During my professional experience I have contributed in the below key areas,
* Developing the IoT applications using node JS, Embedded C, Object-Oriented C++, STL, Exception Handling, information encryption and decryption using open SSL.
* Authoring applications using ZigBee, BLE / Wi-Fi modules with Cloud interfacing and connecting with NoSQL Azure DB.
* Development of C++, Object oriented programming like Encapsulation, Inheritance, Polymorphism, and Interfaces, STL, Multithreading.
* Extensive programming experience in development of C pointers, Data structures.
* Programming in C, C++, Java, Android, Visual Basic 6.0 and SQL Server 2000.
* Programming in JNI development for Widget SDK.
* Programming in JavaScript, Css, Html
* Programming in MMI (Man machine Interface) module for the dynamic mobile application development.
* Programming in FSM state diagram designs and MVC architecture implementation.
* Development of NSR software for testing semiconductor lithography process.
* Development of Brew Extension APIs through Vtable for GTM mobility devices.
* Mobile application development Android Gingerbread version.
* Design and development in Project Management tool iPlan.
* Contributed to Flash lite3.0 (Adobe Flash CS3) with consumer electronics group.
* I have good systematic approach towards solving the problem, Self-motivated, task-oriented professional with good communication and documentation skill.

**Technical Skills:**

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| --- | --- |
| **Languages** | C, C++, Java, JavaScript, Html, Css Microsoft Visual Basic 6.0, Python |
| **Protocols** | TCP/IP, UDP, SSL, TLS, RTMP, RTSP |
| **Mobile Platforms** | Android SDK, Android NDK, Samsung Handset Platform, BREW SDK |
| **Adobe specific** | Flash LIte3.0, Adobe Flash CS3 environment, Alcon Flash debugging tool. |
| **IDE Front End Tools** | Visual Code, Eclipse, Net beans, Visual studio. |
| **Scripting Languages** | Action Script2.0, Java Script |
| **Functional Areas** | IoT Application development, Windows application development, Mobile Application development, Tool Design, Maintenance, IT project Management. |
| **Development Tools** | Visual studio 15, ADS (ARM Development Suite), Cygwin, VC++, Visual studio 6.0, Source Insite, iPlan. |
| **Content Management Tools** | CVS, Perforce, VSS, Clear case |
| **Operating Systems**: | Unix, Ubuntu, Android, Microsoft Windows 10/ NT / Windows 2000 / XP |
| **Databases:** | Microsoft Azure, NoSQL DB, SQL 2000, PLSQL, SQLite |
| **Libraries & Frameworks** | STL, Boost, Multithreaded, POSIX Threads |

#### **Educational Qualification:**

* 2000-2004 - Bachelor of Engineering (Electronics & Communication Engineering).

Manonmaniam Sundaranar University

**Professional Experience:**

**Client: Anthem, Atlanta GA Jan’2020 to Till Date**

**Role: C++ Software Developer**

**Environment:** C, C++, STL, SSL/TLS, Integrated Development Environment and Debug Tools, Ubuntu Linux, POSIX Threads, Intel IoT platform, Mongo DB, Microsoft Azure, Visual studio 15.

* Designed and implementation of tracking solutions ported on to Azure cloud platform.
* Developing the **IoT applications** by utilizing node JS, Embedded C, Object-Oriented C++, STL, Exception Handling, information encryption and decryption using open SSL.
* Authored application using **ZigBee, Bluetooth Low Energy (BLE)** / Wi-Fi modules with Cloud interfacing.
* Designed and Implemented **SSL/TLS cryptographic** protocols to send information and records to cloud.
* Improved existing software by analyzing, fixing the defects, and enhancing current features based on the requirements.
* Designed and Implemented **TCP/IP communication** code to send put away Vehicle diagnostic data, information, and records to the cloud.
* Working with **NoSQL database** and making enhancements to send data in **JSON** format.
* Conducted code reviews according to C++ Coding Standards and Conventions.
* Involved in code check-ins and code-checkout using **GitHub** repository and performs code reviews at regular intervals.
* Implemented code in Python to retrieve and manipulate data. Used **Python** scripts for maintenance tasks.
* Expertise in development on Real Time Operating System (RTOS) with concepts like multithreading and **Socket programming, IPC mechanism and synchronization** methods.

**Client: Nikon, IND Apr’2016 to Mar’2017**

**Role: C++ Senior Software Engineer**

**Description:**

Nikon Step and Repeat System is equipment for the manufacture and testing of semiconductors which involves the Semiconductor Lithography process. Involved in development of Measurement and calculation modules of various process like wafer loading, Reticle alignment, and Laser exposure.

**Responsibilities:**

* Involved in the development of Measurement/Calculation modules of **NSR Nikon software.**
* Involved development of various processes like wafer loading, Reticle alignment, and Laser exposure.
* Involved in **development of testing simulation software** tools of semiconductor Lithography process.
* Developed Object Oriented programming clean code which utilizes concepts like **STL, design patterns, Multithreading.**
* Involved in Design class implementation and **UML diagrams.**

**Environment**: C, C++, Visual Studio 15

**Client: ISIS Private Ltd, India**   **Nov’2011 to Mar’ 2016**

**Role: C/C++ - Software Engineer**

**Responsibilities:**

* Developed the **CPM algorithm** for WBS dependency computation method APIs.
* Used **Data structures extensively for Sorting, Tree structure building and search algorithms**.
* Achieved the Allocation of resources and availability of resources through C Data structures.
* Involved in memory management and **data loading SQL query optimizations**.
* Involved in the design and **development** of iPlan – Planner/Staffer modules.
* Involved in **bugs resolving** and performance optimization of project management Tool – iPlan.
* Programming in C, C++, and VB.
* Involved in Reports, Metrics script work.
* Scripting knowledge in VB script, Java script.
* Involved in bug fixing for iPlan version 5.4 & 5.5 in all the modules.
* Contributed to development of project management tool iPlan modules like organizer, Analyzer.

**Environment**: C/C++, VB 6.0, SQL, PLSQL, Visual Studio

**Client: L G Software IND Oct’2010 to Oct 2011**

**Role: C++/Android Developer**

**Description:**

Widget SDK project is all about the customized widget development by the user. User can create their own widget and test in the desktop and use it in the mobile. The permission of the widget can also be customized. Development of Apis and UI development in android for widget permissions screen and Validation with default widget permissions.

**Responsibilities:**

* Involved in **API Development** for WAC and JIL widgets for desktop.
* Development of **JNI calls for Native android** NDK projects.
* Involved in **memory management and optimization** of apps.
* Involved in Finite Machine state diagram designs for message transfer applications.
* Involved in the development of **Widget SDK API**’s for Windows and some of the UI for widget permission in web kit.

**Environment:** C++, Android SDK, JavaScript, html, CSS,

**Client: Samsung, IND Feb’2008 to July 2010**

**Role: C/C++ Senior Software Engineer**

**Responsibilities:**

* Involved in the **low-level design, impact analysis, and Peer reviews** for various mobile applications in Brew, Android.
* Involved in the design and development of **MMI** module porting for P230 model in Samsung Handset Platform.
* Involved in implementation of **MVC pattern** in Calendar application development.
* Involved in development of SMS Teaser display with **WAP Data Integration.**
* Involved in coding of triggers of audio player application in Mprayer app.
* Developed and implemented of **UI framework for the consumer electronics** group using Flash lite (Action script2.0)
* Involved in **bug fixing**.
* Contributed for Brew telematic application to receive and control the device some of the Brew API extensions and the implementation of extensions are through **Vtable & function pointers**.
* Performed peer code reviews and review of unit test cases.
* Created the specifications from design documents and Drafted specifications to programmable tasks.
* Performed the Unit testing and Integration testing in Simulator and the devices.

**Environment:** C/C++, SHP, Symbian OS, ADS (ARM Development Suite), Cygwin, Perforce, Source Insite