

Pratik Prajapati

M: (+91)8690024945

E: p.pratik9697@gmail.com

EMBEDDED SOFTWARE ENGINEER

PROFILE SUMMARY:

- Overall, 3.5 years of experience with a good understanding of the embedded domain. Professional in embedded design, development, analysis, debugging, and testing skills.
- Currently associate as Senior Embedded Software Engineer with Digital Reach Pvt Ltd.

EMPLOYMENT DETAILS:

- Dec 2020 – Till Date** with Digital Reach Pvt Ltd.
- Dec 2018 – Nov 2020** with Nostrum IT Services Pvt Ltd.

SKILLSET:

- Languages:** Strong knowledge of C, C++, Data Structure, Python (Basic), Embedded C
- Domain Knowledge:** Linux Internal Programming, Socket Programming
- Operating System:** Linux (Ubuntu), Windows
- Processor/Controller:** 8051, NXP1050 & 1052DVL6A/DVL6B, STM32 based F411RC, F429I (Discovery), F429ZI(Nucleo)
- Tools/Software:** Vim editor, IAR Workbench, MCUXpresso, STM32Cube IDE, STM32Cube Mx, Keil, GitHub, GDB, Spider, PyCharm
- Protocol:** I2C, SPI, TCP/IP, UDP, MODBUS, UART

KEY RESULT AREAS:

- Development of large and complex projects or multiple components of large projects involving more than one company's product/ services.
- Communicating with internal/external clients to determine specific requirements and expectations, managing client expectations as an indicator of quality.
- Following the project life cycle methodology like Agile and Waterfall; defined under the process framework; ensured that customer deadlines were met within project budgets.

PROJECT DETAILS:

Project Name	GSM based SMS alarm controller API / (6 Months)	[3 Members]
Technologies/ Tools	STMCubeIDE, ST Link, Segger J-Link, GIT	
Operating System	Windows, Linux (Host OS)	
Platform Used	STM32F411RC, STM32F429I (Discovery)	
Detailed Overview	Create API for the Message system for remote monitoring and controlling the message notification. Sends an SMS to the Device to operate the various operations through the message system. Acknowledge I/O status on-demand from a registered mobile number and allows for configuration and restoration of a device to its original settings through manual reset as well as through SMS.	
Roles & Responsibility	As a software developer, my responsibility is to implement Architecture components. Implementation of code and Functional test specification, Debugging and Testing.	
Skill Set	Embedded C, Data structure and Algorithms, I2C Protocol, C library, API integration, Windows Services, GIT	

Project Name	Remote Energy Monitoring and Data Acquisition System/ (6 Months) [4 Members]
Technologies/ Tools	Eclipse IDE, SUNROM RS485 I430, GIT
Operating System	Embedded Linux, Windows (Host OS)
Platform Used	Secure Meter Elite 440
Detailed Overview	Read the Multiple Multi-function energy meters over RS485 Modbus and store data on IOT device and upload to server.
Roles & Responsibility	As a software developer my responsibility is the Implementation of code, the Integration of modules for the Main Control Board, and Store Data in the device in case of lost connectivity, Unit testing, Debugging and Testing.
Skill Set	Linux Internal Programming, Embedded C, C Functions, SPI Protocol, MODBUS Frame Structure, Read Energy Meter, Windows Services, Git

Product	Modbus to IEC-104 Converter/ (3 Months) [4 Members]
Technologies/ Tools	C, Eclipse Neon, GIT
Operating System	Embedded Linux
Platform Used	IEC-104
Detailed Overview	Convert MODBUS protocol data into IEC-104 Protocol Web-based configuration.
Roles & Responsibility	Functional testing and Unit Testing.
Skill Set	C Language, Linux system Programming, Modbus Protocol, Modbus Frame, Meter configuration

Project Name	Achieve Multiple Client Handling / (1 Year) [6 Members]
Technologies/ Tools	Router, Wireshark, GIT
Operating System	Linux
Detailed Overview	The product has 3 wireless cards, 2.4 GHz, 5 GHz, and 60 GHz. To make them handle the traffic and client concurrently, updated the packet flow path to the driver module, where packets are segregated based on destination mac address and pushed to respective queue for internal use.
Roles & Responsibility	Read incoming packet and push it to the respective queue based on MAC address and created a proc entry for the Driver module.
Skill Set	C Language, Data structure and Algorithm, Linux System Programming, TCP/IP Protocol, UDP Protocol, Router Configuration, Driver Module

Communication Library	[Owner]
Detailed Overview	Implemented a library for MODBUS Protocol, lwip HTTPS, RTC App, Input/Output Operation, and Read Meter App.
Roles & Responsibility	Being the product owner implemented the whole code from scratch and did developer testing.
Skill Set	C Language, MODBUS Protocol, TCP/IP Protocol

Communication Library [Owner]	
Detailed Overview	Implemented a library for TCP/IP, UDP, RAW, UNIX, and NETLINK socket communication to overcome code repetition. Created the APIs like Open_Socket, Send_Data, Receive_Data, and Close_Socket.
Roles & Responsibility	Being the product owner implemented the whole code from scratch and did developer testing.
Skill Set	C, DS Linux System Programming, TCP/IP Protocol, UDP Protocol

ADDITIONAL COURSES & CERTIFICATES:

- **Naresh I Technologies:** - Python
November 2020 –January 2021, Hyderabad
- **Naresh I Technologies:** - Advance Data structure and Algorithms Training
November 2020 –January 2021, Hyderabad
- **Vector India Pvt. Ltd.:** - Advance Embedded systems & Linux Internal Program
July 2018 –Jan 2019, Bangalore
- **SIGMA Institute:** - Embedded system Training
June 2013 –May 2014, Ahmedabad

EDUCATION QUALIFICATION LAST:

- S. P. B. Patel Engineering College: - B.E in Electronics and Communication
June 2010 –May 2014, Mehsana/ Secured 7.79 CGPA

PERSONAL DETAILS:

- **Full Name:** Prajapati Pratik Lilabhai.
- **DOB:** 03rd August 1992
- **Address:** D/439 Krishna Nagar Soc-2., Nr. Dipali, Adinathnagar, Odhav, Ahmedabad – 382415, Gujarat.
- **Languages:** English, Gujarati, Hindi
- **Nationality:** Indian
- **Hobby:** Travelling and Trekking, Outdoor Sports

DECLARATION

I affirm that information provided above is genuine to the best of my knowledge.

Place: AHMEDABAD

Pratik Prajapati