

ABHAY YADAV

Embedded Software Developer hands on various project's.

SUMMARY :-

- Currently working on **RDK video accelerator certification** test suite and NRDP5.3 architecture port of Netflix.
- Worked on developing media player frameworks **Gstreamer**, streaming technologies.
- Developed the **Ingenic-T21 IP Based Camera** with Peer to Peer communication.
- Character Device Driver Development on kernel v4.13.9.
- Board Bring-up (ARM , All winner A13 ,Processor -ARM Cortex-A8 @ 1Ghz).
- Client Server Communication using Socket Programming.
- Implemented network programming involving Sockets with advanced family protocols: **AF_UNIX** and **AF_INET**.
- Understanding of Process Duplication (Fork), Process Replacing (Exec) and similar Linux concepts.
- Setting up synchronization between different processes and threads using **Semaphores** and **Mutex** and signaling mechanisms.
- Good understanding of concept of Thread programming.
- Good understanding of concept of Data Structure like Linked List.
- Good understanding of GCC compiler & Able to debug complex C program using GDB.

Work Summary :-

- Having 3.4 years' experience in embedded Linux based technology.
- Having experience in real time system project based on embedded systems.
- Knowledge of software and hardware designing based on embedded system.
- Knowledge of communication protocol like FTP, SMTP, UART, I2C.
- Team player with good interpersonal skills and high level of energy and enthusiasm.

Technical Skills :-

Operating System	: Linux, Windows.
Programming Languages	: C Language, C++, Bash, Knowledge of Python Scripting and Qt.
Networking Protocols	: TCP, UDP Protocol
Simulators	: NS2.
Editor	: VIM/Source Insight
Compiler	: GCC
Debugging Tool	: GDB

Working Experience:-

(A) **Tata Elxsi Ltd.** worked as a Senior Software Engineer from Feb-2021 to till.

Project Description :-

- Working on RDK video accelerator certification test suite and NRDP5.3 architecture port of Netflix in this i have analyzing the security bug and find the root cause and resolve the issue.
 - Using TM machine for executing the test case and test suite.
 - Using Realtek Board 615M and build the image and flash the image into board.
- Skills using:- C, Linux, Rdkv, IPC, Gstreamer, Makefile, Yocto.

(B) Planetcast Media Services Ltd. worked as a Software Engineer. Mar-2020 to Jan-2021.

Project Description :-

- Developing media player frameworks (**Gstreamer**) streaming technologies for STB rk3288 Rockchip Board.

Responsibilities :-

- Working on Gstreamer streaming technologies over the Networks and work on wide variety of media-handling components, developing gapless playback video, audio and switching playback video, recording, streaming and editing. And building a system that reads files in one format, processes them, and exports them in another. The formats and processes can change in a plug and play fashion.
Skills using:- C, Linux, IPC, Gstreamer, Makefile, Yocto.

(C) Aditya Infotech Ltd. (CP Plus). worked as a Software Engineer. Feb-2019 to Feb-2020.

Project Title :- Ingenic-T21 IP Camera.

Project Description :-

- The Ingenic IP Camera is a Network camera being developed by CP Plus. It is intended to use for security surveillance purpose by the customers.

Responsibilities :-

- Worked on the Hardware Abstraction Layer for video streaming and Camera Rotation Feature (controlling the Motor by Application).
- Worked on the RTSP Command for controlling stream for play pause in Ingenic camera.
- Worked on the health monitoring system utility for camera (check devices health related to video recording working, sd-card available, wi-fi connected or not). Using server client framework by MQTT (Message Queuing Telemetry Transport) publish -subscribe based messaging protocol.
- Worked on the serial (UART) communication for the camera with console and developing the GUI Interface for Network Video Recorder. using QT

(D) EmbLogic Research & Competency Development Labs. Worked as Trainee (From Jun-2018)

Project Description :-

- **Character Device Driver Development on kernel v4.13.9**

Device registration & initialization, device open, close, create scull, device write, read, trimming seeking, ioctl, synchronization and timers.

- **Establish the Client Server Communication using IPC techniques:**

Pipes & FIFOs: Used to process the requests (addition, subtraction and multiplication operation) of clients using the IPC techniques FIFOs on requesting side and Pipes on the processing side and send back the computed result to the requesting clients.

Message Queues, Shared Memory and Semaphores: To listen the requests of 32K clients using the message queues on requesting side and shared memory on processing side. Synchronization is achieved by using semaphores.

Message Queues, Shared Memory, Threads and Semaphores: Able to process the requests 1.29L clients. Server continuously pick up the requests through message queues and create threads. Threads send the requests to processing clients and fetch the result of corresponding requests through shared memory. Synchronization is achieved by using thread semaphores.

- **Client Server Communication using Socket Programming**

AF_UNIX: Process the requests of requesting clients by creating file system socket and establish

connection between client and server in multithreading environment.

AF_INET: Created AF_INET sockets and connect all requesting clients with server both through loop back address on same machine and through IP address over same network on two systems using threads and mutex. Processed the requests of 1.29L clients.

(E) E-wave Networks Pvt Ltd. worked as a DT Engineer. Dec-2015 to May-2018

Roles and responsibilities :-

- Done cluster DT & OPTIMIZATION using TEMS Investigation 16.2.2.
- Performing LTE Pre launch and post launch network optimization TEMS drive analysis, neighbor relation, and tilt and parameter optimization.
- Instrumental in voice, video and data drive testing for 3G network
- Performed LTE Throughput test on Uplink and Downlink using both FTP and HTTP servers.
- Performed Ping Test, UDP Tests, CS Fall Back tests.
- Performed LTE cluster Drives.
- Documented reports using MapInfo 8.5.
- Analyzing Log files, frequency and neighbor planning.

Industrial Training :-

- Embedded C and Microcontroller 8051 at Ducat Duration: Six month(Feb-2015 to Aug-2015).
- Electronics / Instrumentation Lab at Research Designs & Standards Organization Duration: One month.

Education Qualification :-

- Four Year Engineering in Electronic & Communication from Uttar Pradesh Technical University
- The Graduated from Meerut Institute Of Technology, Meerut 2014 (Uttar Pradesh).
- Intermediate from G.I.C. Ballia (Uttar Pradesh).
- Matriculation from G.I.C. Ballia (Uttar Pradesh).

Personal Details :-

Email ID : krabhay217@gmail.com
Contact : +91 8707456627
Date of Birth : 21th July 1992.
Father Name : Shiv Kumar Yadav
Nationality : Indian
Marital Status : Single
Language known : English & Hindi.
Address : A/417 Awash Vikash Colony Harpur Ballia u.p –277201

I certify that the above statements are true and complete to the best of my knowledge.

Date: (Abhay Yadav)