Looking into The Future of AI and the Embedded Systems Development With Interesting Intelligent IoT Applications based on Specified Hardware & Software via - C/C++/Ruby/AI/ML related Concepts – A Short Technical Note.

Nirmal Tej Kumar

Current Member - ante Inst,UTD,Dallas,TX,USA.
Independent Consultant - Informatics/Photonics/Nanotechnology/HPC
R&D Collaborator - USA/UK/Israel/Armenia/BRICS Group of Nations.
email id - hmfg2014@gmail.com

[I] Introduction & Our Inspiration :

"C/Ruby/IoT/Smart Devices/microkernels ----- are very much promising/interesting in the Embedded Systems Domain."

http://www.techdesignforums.com/practice/technique/formal-soc-verification/

[http://vixra.org/pdf/1710.0320v1.pdf] && [http://vixra.org/pdf/1811.0260v1.pdf]

http://web.eecs.umich.edu/~valeria/lab/documents/mammo.pdf

http://www.doc.ic.ac.uk/~wl/papers/fpl96.pdf && http://www.doc.ic.ac.uk/~wl/papers/fpl95.pdf

https://github.com/taichi-ishitani/rggen

https://www.testandverification.com/wp-content/uploads/DVClub/19_Mar_2013/TVS-Avanish&Abhineet.pdf

https://www.researchgate.net/publication/254016243_Verification_and_diagnosis_of_SoC_HDL-code

https://www.eetimes.com/document.asp?doc_id=1216487

http://foldoc.org/Ruby && https://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-682.pdf

http://www.cs.utexas.edu/users/moore/acl2/talks/royal-society/talk.pdf

http://www.microkernel.info/ && https://en.wikipedia.org/wiki/L4_microkernel_family

https://www.digit.in/apps/hands-on-intel-iot-developer-kit-using-intel-xdk-28004.html

[II] Hardware Based Simple Informatics Framework & Implementation :

C/C++/dlib C++ extension with Ruby to develop prototyping of embedded Systems rapidly using e.g Altera SoC FPGA Boards interfacing with Bosch XDK KIT in the context of IoT/Cloud Services etc….

[dlib C++ based Machine Learning Libraries are highly useful in creating intelligent embedded systems]

Simple Block Diagram

Approximate FPGA Based Hardware interaction with XDK KIT for IoT Computing Environments & Applications
Simple Suggestion Based on our Informatics/Computing Framework for Futuristic IoT Applications
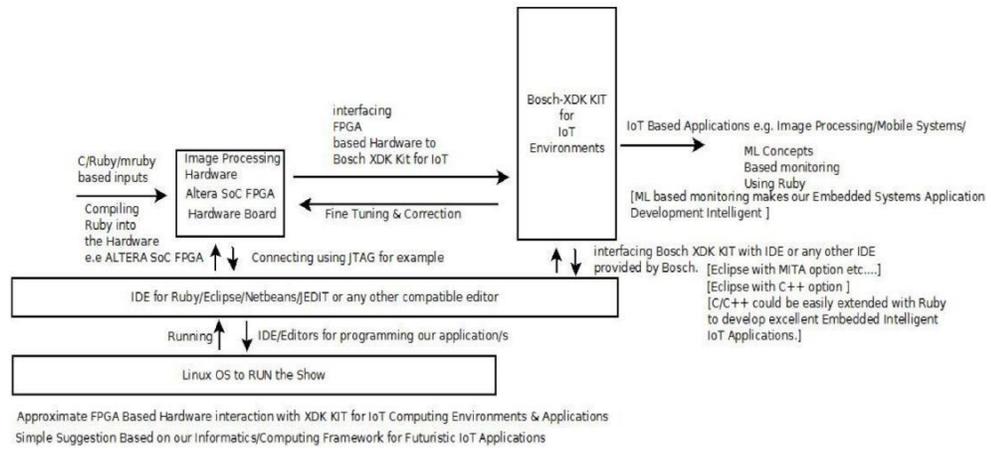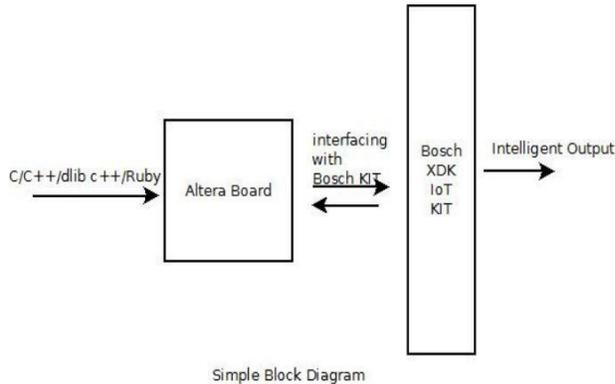
**Figure I – Overall Idea & Suggestion – Please Read and Satisfy Requirements to Develop
"Intelligent Embedded Systems" for IoT based Computing Environments
in the context of Smart Devices .**

https://www.intel.com/content/www/us/en/products/programmable.html - Intel/Altera

FPGA information && https://xdk.bosch-connectivity.com/home && http://dlib.net/

https://www.intel.com/content/dam/www/programmable/us/en/pdfs/literature/ab/ab1_soc

_fpga.pdf

Comment/s :

*** [I am not endorsing any product or products here – there could be other possible hardware platforms] ***

*** Readers are requested to satisfy themselves before using the information.***

***Actual Implementation might vary to some extent Please Check ***

{ Testing in progress at the time of submission }

Acknowledgment/s :

Thanks for reading my paper – Dr.Nirmal.

THE END.