ASSIGNMENT 5

ESE – 3005

EMBEDDED SYSTEMS ARCHITECTURE 2

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**The history of creation of Yocto Project along with it’s analysis.**

In March 2011, along with 22 organizations Linux foundation announced Yocto project. It is a open source project having the goal tp create tools to enable the production of linux distribution for IOT and embedded softwares.



Yocto project is a non-profir project organized under the banner of linux foundation. Richard Purdie a linux foundation fellow looks at this project at technical level. This architect holds the hierarchy of maintainers for different parts of the system as kernal is maintained. It improves the work environment for developers as linux systems supports the ARM, MIPS and PowerPC architectures. With the help of yocto project, developers are able to make their own Linux distribution specific to their environment. Yocto project provides reference implementation which contains the Openembedded build system including large set of layers of hierarchical system, and this reference implementation called poky.

Moving further, from tiny to fully featured images are offered by this project and these images are customized by end user. Brief summary of “Workflow” is mentioned in following points:

1. Architecture, patches and configuration details are specified by developers.

2. Source code is fetched from the specific location and further fetched by build system of yocto project. This system supports standard methods like Git.

3. Local work are is used by build system to extract the source code and patches are applied.

4. Somewhere in temporary staging area, build system install the software using the binary package format for further roll up the software.

5. Throughout the entire build process, different QA and sanity checks.

6. Binary pakage is generated by build system to create a final root file image after the binaries are created.

7. In last, file system image and customized extensible SDK is generated by build system for application development in parallel.

Developing using thr Yocto project likely requires the use of git. It is a free and open source system and used as a part of many collaborative design environments. Using the Yocto project and git, this section provides workflow concept. Files are maintained using the git branches. Maintainer is a key individual for yocto projectand is important for the integrity of given git repository. Further it is responsible for accepting changes and to organise the branch structure to reflect strategies. Developers are responsible to maintain the local repository and to solve out any kind of conflict that may be arise within files. This work is done in local environment on the development host before anything is pushed.