**Date: 7/11/2017**

4Th year university project

* **Project name:** Parallel Processers Simulator.
* **Project description:** a program that simulate and demonstrate the working of some task scheduling algorithms (which orders tasks so that the processor is executing a task in the most times) and can show a step by step change in task ordering and check if the student solution is right at each step with the ability to submit a solution to a separate file for teacher to look at it and correct it no auto correct way to do it for the time being.
* **Targeted Algorithms:** 1- Scoreboarding 2- Tomasulo Approach 3- Loop Unrolling
* **Predicted time for accomplish:** 60 days / 2 Month.
* **Start date:** 7/11/2017.
* **Team members:** 1- **Saria Houloubi** 2- **Areej Sultan** 3- **Ruba** **Hasan** **Supervised by: Dr. Samer Sulaiman**

**Date 7/11/2017**

**Points looked at:**

* **What is Parallel Processing?** Wiki article: <https://en.wikipedia.org/wiki/Parallel_computing> , Article 2 : <http://searchdatacenter.techtarget.com/definition/parallel-processing> , YouTube video: <https://www.youtube.com/watch?v=q7sgzDH1cR8> , Summery: It is having multiple processers doing different task which are not dependent on each other (Task A dose not and data from Task B) so it has got all its data and ready to roll this speeds up the compiling and execution process so that we can execute multiple process at the same time.
* **How do achieve parallel processers and what is it called in real life computers that is consumed by users?** Summary: we can achieve parallel processing in a programing fashion as it was first tried an was called multiprogramming as each program could use the CPU for some time and so one on the other programs but the issue was surfaced when a task was dependent on some data and that created dead lock which held the CPU from running then in the later time a new hardware way was introduced that was called multiprocessors that mean having more than one processers that work together to do the job, we see multiprocessors now a day in multicore processers which means that it has got more that on processers doing different tasks at the same time.
* **What is Task Scheduling?** Wiki article: <https://en.wikipedia.org/wiki/Scheduling_(computing)> ,Summary: it is program scheduling as the tasks are working with some algorithms to share the CPU time so we could have one processor but can do more than one task at a time which we think is parallel but in core of it is tasks are sharing CPU but each one at a time but this happens in high speed which looks like it is doing them in parallel
* **History on task scheduling?** Wiki article: <https://en.wikipedia.org/wiki/Scheduling_(computing)>
* **Static and dynamic task scheduling?** PDF file: <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&cad=rja&uact=8&ved=0ahUKEwiLsYTbua7XAhXRIuwKHQBYDp8QFghWMAc&url=http%3A%2F%2Fwww.dis.uniroma1.it%2F~ciciani%2FDIDATTICA%2FARCHITETTURE%2FSchedLB.pdf&usg=AOvVaw1HtF_6NqvmrwIwWWsookUv> ,Summary**:** Static scheduling works before the program executes which means that is schedules task at compile time, where dynamic scheduling takes place at execution time.
* **Scheduling algorithms?** Summary: there is different algorithms each with its ups and down for the time being we are going to work with three algorithms Scoreborading, Tomasulo, Loop Unrolling.

**Articles and videos That we took information from and not mentioned above:**

1. [**http://web.cs.iastate.edu/~prabhu/Tutorial/PIPELINE/dynamSchedTech.html**](http://web.cs.iastate.edu/~prabhu/Tutorial/PIPELINE/dynamSchedTech.html) **.**
2. [**https://www.youtube.com/watch?v=GxesVUkmSLA&t=140s**](https://www.youtube.com/watch?v=GxesVUkmSLA&t=140s) **.**
3. [**https://www.youtube.com/watch?v=oVesh-w0-OI&t=1s**](https://www.youtube.com/watch?v=oVesh-w0-OI&t=1s) **.**

**by: Saria houloubi**