E-Portfolio

Purpose:

The purpose of this portfolio is to gather my thoughts and reflections as I progress through the masters of systems engineering program at Portland State University. My thoughts and reflections shall be on individual courses, how they relate to one another, and how they relate to the workplace. The E-portfolio is also a medium for periodic feedback between me and the university.

As I am enrolled in this program to develop my professional skills in the area of Systems Engineering the E-portfolio shall be used to determine how the information gained within the virtual classroom could be applied to on the job experiences.

Theme:

The theme of the E-Portfolio is to gather information for development of a dynamic method of Systems Engineering, with hopes that this will evolve into my Masters project. The focus of my Masters project is on methods for Agile Systems Engineering which apply to the early Architectural and developmental phases in the lifecycle.

Background:

My current career is in the research and develop field for a defense contractor where requirements are not set in stone and evolve over time. I am most interested in learning about dynamic forms of system engineering which allow requirements to evolve up to the last possible point in time. As I am not currently aware of a method which is similar to Agile Software Engineering that applies to Systems Engineering I am interested in learning about this topic, or working on the development of this method.

In my current position I take ideas which may be little more than a sketch on a piece of paper, or an idea in my head, and move them from proof of concept all the way through to the preparation for production. In this type of development Big Requirement Up Front (BRUF) projects fail as they are not able to demonstrate progress to potential customers at any point in time and also cannot adapt quick to changes in the marketplace. I am looking for ways to incorporate a dynamic system development environment with the repeatability and long term success of Waterfall methodology developments.
How the information will be gathered:

In order to be constantly gathering the information needed for this E-portfolio, week notes on the course subject matter will be used. The weekly notes will not be published as part of the E-portfolio, but will be available if requested. The notes will include:

- Summary of material covered over previous week.
- Summary of discussions with peers/ advisor
- Reflections on topics covered over previous week as they relate to:
  - Typical Systems Engineering
  - Dynamic developments
  - Other material from this or other courses

Class Summaries

This section contains links to summary presentations for each class that has been completed. The intended audience of the presentations is my coworkers as sharing information is a way to say thank you to my employer.

SYSE 591- Systems engineering approach

SYSC 514- System Dynamics

SYSE 573 – Requirements Engineering

SYSE 567 – Systems Engineering Management

ETM 540- Operations Research in Engineering and Technology Management

SYS 575 – Reducing Risk in decision making

SYS505- Reading and Conference – Systems Architecture
**Timeline**
The following figure overviews the planned which classes will be taken during each semester.

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