

Introduction to PMP 1

CSCI 5040: Professional Master's Project (1 of 2)

Lecture 2

Learning Objectives

- Clarify the class focus and relevance
- Determine the class fit to the student's learning goals, experience, and skills

Welcome!

- Welcome to the Professional Master's Project class
 - I'm looking forward to working with you!
 - This semester and next!
- This course explores software development, project management and related topics related to being an effective professional software developer
- It's intended to give you experience and review of profession software engineering in design, development, and delivery of an actual software project

Seven Stages Of Developers

One theory of experience growth for software developers places people at one of seven points:

Stage 1: Innocent

Stage 2: Exposed

Stage 3: Apprentice

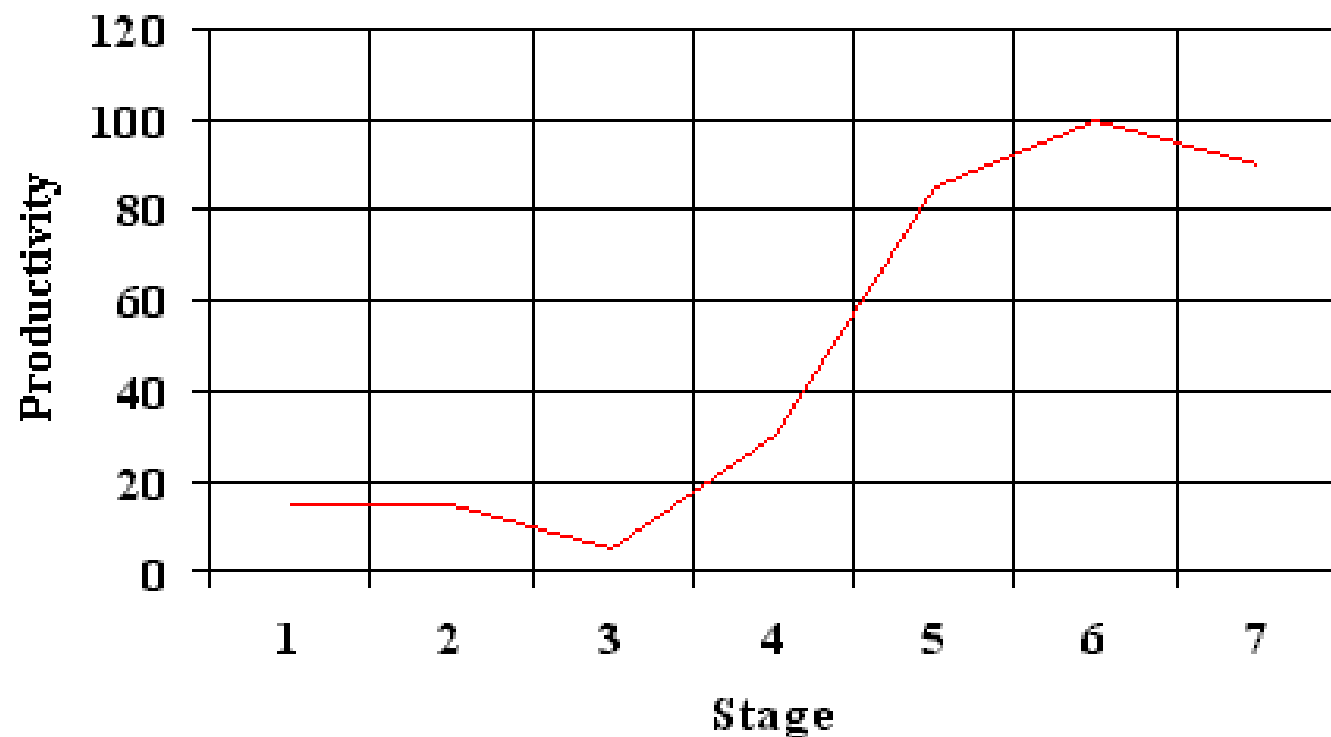
Stage 4: Practitioner

Stage 5: Journeyman

Stage 6: Master

Stage 7: Researcher

Ideally, your PMP experience will help move you along this curve...



<http://www.wayland-informatics.com/The%20Seven%20Stages%20of%20Expertise%20in%20Software.htm>

Prerequisites

- A solid set of development skills and the ability to pick up new tools and technologies
- An open mind
 - Particularly with your team mates and the class staff
 - And to the projects, to find one that gives you a challenge
- Commitment to engaging
- Open and honest (but tactful) communications

PMP Class - Textbook

- Rather than provide a textbook, I'll be providing some readings from a variety of sources
- Most of them will come from books available through the O'Reilly/Safari book collection available through the CU library
 - <https://libguides.colorado.edu/strategies/ebooks>
 - Under Sciences, O'Reilly-Safari ebooks
 - Other sources here too...

OOAD Class Focus

- In-class: Industry best practices and discussions, Class deliverables
 - Many of you have some experience, be prepared to share the good, bad, and in-between of what you've seen
- Outside class: Discussion of project work and processes, help with teams or sponsors
- Primary goal: Your team's success in the design, development and delivery for your sponsor's software project

Best practice areas

- Software organizations, project **initiation**, and project sources
- Ideation, feasibility, and **exploration** of design concepts and environments
- **Project management** methods, both waterfall and agile, for planning and control of scope, schedule, cost, quality, sourcing, resources, communication, risk, change, and stakeholders; stage gate and project assessments; agile planning and development cycles
- Progressive **design** elaboration, design processes, and development of constrained requirements
- Views of and approaches to developing thorough system **architectures**
- Human-computer interaction and user-based design for effective **user experience**
- **Security** assessment and risk mitigation for connected systems; licensing and open source assessments
- Proofs of concepts, **prototyping**, and fidelity
- **Development** cycles and tools, effective source control, **DevOps** infrastructure, and build approaches
- Software **quality** methods – **testing** levels and methods, code reviews, quality tools, readiness reviews
- More on HCI and security
- Supporting **documentation**, training, help systems, and other product infrastructure
- System **delivery** cycles – alpha, beta, production testing; manufacturing concerns
- Post-delivery operations, support, evaluation, and **maintenance**
- **Application and practice** of topics above for design, development, and delivery of an institution or industry supplied/sponsored software development project

Summary: Goals of the Class

- Close out your master's degree efforts and get to apply all the software skills you've learned
- Work in real industry standard rhythms to create real software products
 - As close to industry development as you can get without getting a paycheck
- Learn the keys to being an effective team member, leader, or manager of software engineering efforts
- Build your resume and skill sets for clear sailing through interviews with industry development firms
- Have fun doing what (hopefully) you really like to do – making stuff
- And learn the best ways to do it