

SOFTWARE PROJECT MANAGEMENT

LECTURE # 1

INTRODUCTION

Engr. Ali Javed

8th September, 2011

Lecture No. 1

Contact Information

2

- Instructor: **Engr. Ali Javed**
 - Lecturer
 - Department of Software Engineering
 - U.E.T Taxila

- Email: ali.javed@uettaxila.edu.pk
- Contact No: +92-51-9047592
- Office hours:
 - **Monday, 11:00 - 01:00, Office # 7**

Course Information

3

- **Course Name: Software Project Management**
- **Course Code: SE-401**
- **CMS Link:** <http://web.uettaxila.edu.pk/CMS/AUT2011/seSPMbs/index.asp>

Books and Reference Material

4

- ❑ Software Engineering: A Practitioner's Approach – by Roger Pressman
- ❑ A Guide to The Project Management Body of Knowledge – PMI Standards Committee (William R. Duncan)
- ❑ Software Engineering Project Management – Richard H. Thayer
- ❑ “Information Technology Project Management”, Kathy Schwalbe
- ❑ “Quality Software Project Management”, D. Shafer
- ❑ “Software Project Survival Guide”, Steve McConnell
- ❑ “Peopleware”, T. DeMarco and T. Lister

Grading Criteria

5

□ Grading

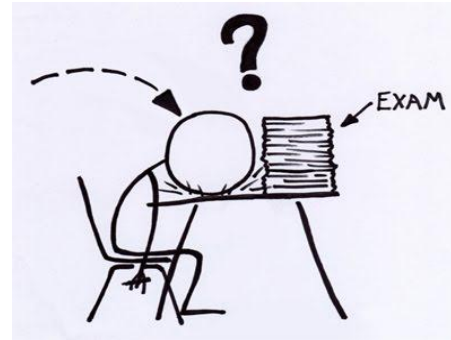
- ✓ Mid Exam - 20%
- ✓ Final Exam - 40%
- ✓ Quiz - 10 %
- ✓ Assignment - 10 %
- ✓ Lab - 20 %

Quizzes and Assignments

6

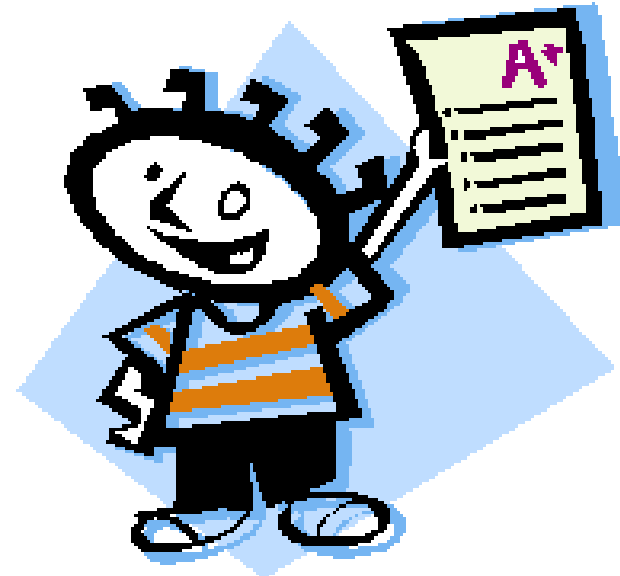
□ Quiz- 4 quizzes

- 2 before mid exam
- 2 after mid exam



□ Assignment- 3 assignments

- 2 before mid exam
- 1 after mid exam



Course Objectives

- ❑ To learn the techniques required to plan, organize, monitor and control software development projects

Learning Aspects in SPM

- ❑ **Basic Overview of Management, PM, SPM**
- ❑ **4P's in Project Management**
- ❑ **Software Development Fundamentals**
- ❑ **Process and Project Metrics**
- ❑ **Estimation**
- ❑ **Work Break down structure**
- ❑ **Scheduling**
- ❑ **Risk Management**
- ❑ **Change Management**
- ❑ **Quality Management**
- ❑ **Application Tools**
- ❑ **Commissioning & Migration**

9

Software



What is Software?

10

- ❑ Software can be considered a product of engineering just like an airplane, automobile, television, or an other object that requires a high degree of skill to turn a raw material into a usable product.
- ❑ But software is developed or engineered, not manufactured!
- ❑ Software can be of different types:
 - ✓ System software
 - ✓ Application software etc.

11

Project



What is a Project ?

12

❑ PMI* definition

- ✓ It is a temporary endeavor (having specific start and completion dates) undertaken to create a unique product or service

❑ Temporary

- ✓ It means that every project has a definite *beginning* and definite *end*
 - End is reached when project's objectives have been achieved OR it is clear that objective will not be met. The project is terminated in such a situation

❑ Unique

- ✓ It means that the product or service is different in some distinguishing way from all similar products or services

13

Management



Management

14

- ❑ The organization and coordination of the activities of an enterprise in accordance with certain policies and in achievement of defined objectives.
- ❑ Management is the process of designing and maintaining an environment in which different individuals working together in the form of groups effectively and efficiently accomplished the desired objectives

Why we need Management

15

- ❑ To increase the productivity
- ❑ To avoid time lapse
- ❑ To organize task in daily life
- ❑ To avoid wastage of resources



Engr. Ali Javed

Responsibilities of Management

16

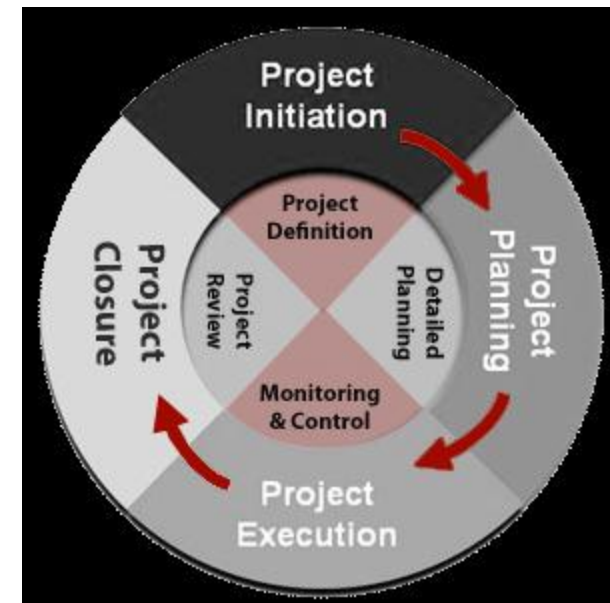
- ❑ Answerable to Stakeholders of an organization
- ❑ Give Employees good working conditions
- ❑ Give customers right thing in right price & time
- ❑ Maintain good relationships between organization and the suppliers
- ❑ Develop future plans of the organization
- ❑ Develop and ensure community support
- ❑ Know-how of government rules and regulations
- ❑ Awareness of currency fluctuation and interest rates
- ❑ Preparation against disasters
- ❑ Capability to manage the change

Management Activities

17

The management involves the following activities:

- ❑ **Planning**- deciding what is to be done
- ❑ **Organizing**- making arrangements
- ❑ **Staffing**- selecting the right people for the job
- ❑ **Directing**- giving instructions
- ❑ **Monitoring**- checking on progress
- ❑ **Controlling**- taking action to remedy hold-ups
- ❑ **Innovating**- coming up with new solutions
- ❑ **Representing**- liaising with users, etc.



Project Management

18

- ❑ It is the discipline of planning, organizing, and managing resources to bring about the successful completion of specific project goals and objectives
- ❑ Project Management is the art of maximizing the probability that a project delivers its goals
 - ✓ on **Time**
 - ✓ within **Budget**
 - ✓ at the required **Quality**.



Project Management

19

- Project management is the **application of**
 - ✓ **Knowledge**
 - ✓ **Skills**
 - ✓ **Tools**
 - ✓ **Techniques**

to project activities to meet project requirements.



- **The more you know about your project, the better you are able to manage it.**



Project Management

20

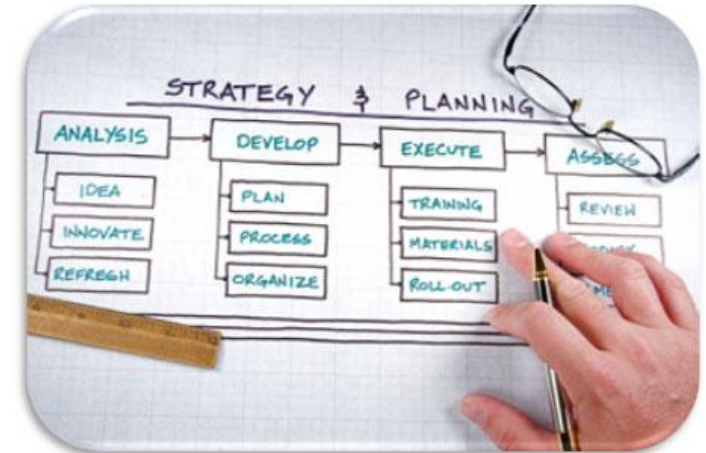
- ❑ Following are related to Project Management
 - ✓ Professional Organizations
 - Project Management Institute (PMI) (pmi.org)
 - Software Engineering Institute (SEI)
 - IEEE Software Engineering Group
 - ✓ Certifications
 - PMI's PMP (Project Management Professional)
 - CAPM (Certified Associate in Project Management)
 - ✓ The “PMBOK” – PMI Body of Knowledge



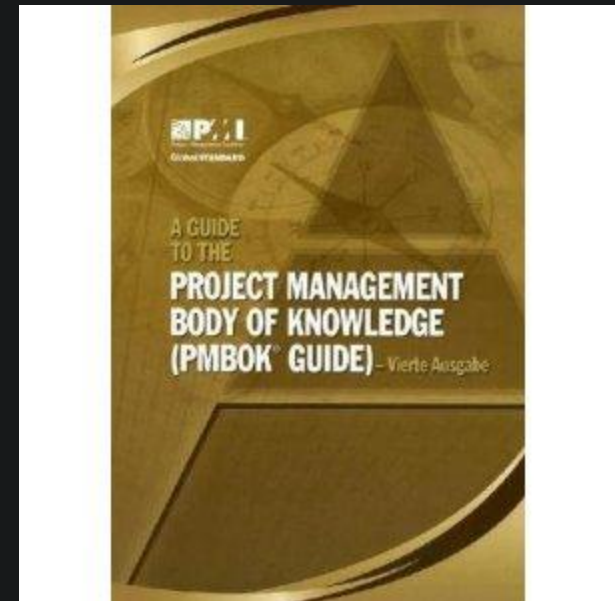
Project Management Skills

21

- ❑ Leadership
- ❑ Communications
- ❑ Problem Solving
- ❑ Negotiating
- ❑ Influencing the Organization
- ❑ Mentoring
- ❑ Process and technical expertise



- ❑ **Project Management Process Groups**
- ❑ **Project Management Knowledge Areas**



Project Management Body of Knowledge^[5]

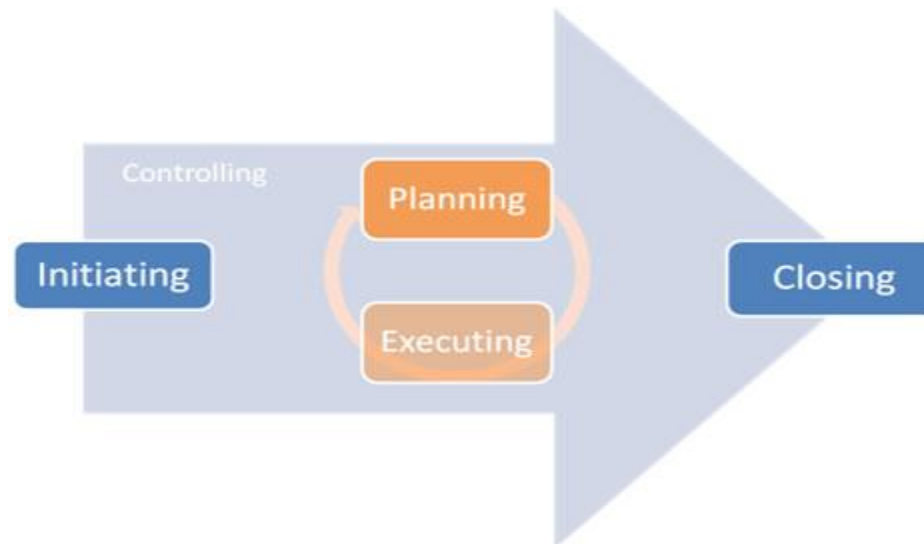
23

- ❑ The Project Management Body of Knowledge (PMBOK) is a collection of processes and knowledge areas generally accepted as best practice within the project management discipline.
- ❑ Generally accepted means that it is applicable to most of the projects most of the time.
- ❑ The Third Edition (2004) was recognized as a standard by the Institute of Electrical and Electronics Engineers IEEE 1490-2003.
- ❑ The Fourth Edition (2008) was recognized by the American National Standards Institute (ANSI) as an American National Standard (ANSI/PMI 99-001-2008).

Project Management Process Groups [3]

24

- ❑ PMBOK recognizes 5 basic process groups listed below.
 - ✓ Initiating
 - ✓ Planning
 - ✓ Executing
 - ✓ Monitoring and Controlling
 - ✓ Closing



Project Management Knowledge Areas [3]

25

- ❑ PMI has suggested 9 Knowledge Areas
 - ✓ Project **Integration** Management
 - ✓ Project **Scope** Management
 - ✓ Project **Time** Management
 - ✓ Project **Cost** Management
 - ✓ Project **Quality** Management
 - ✓ Project **Human Resource** Management
 - ✓ Project **Communications** Management
 - ✓ Project **Risk** Management
 - ✓ Project **Procurement** Management



26

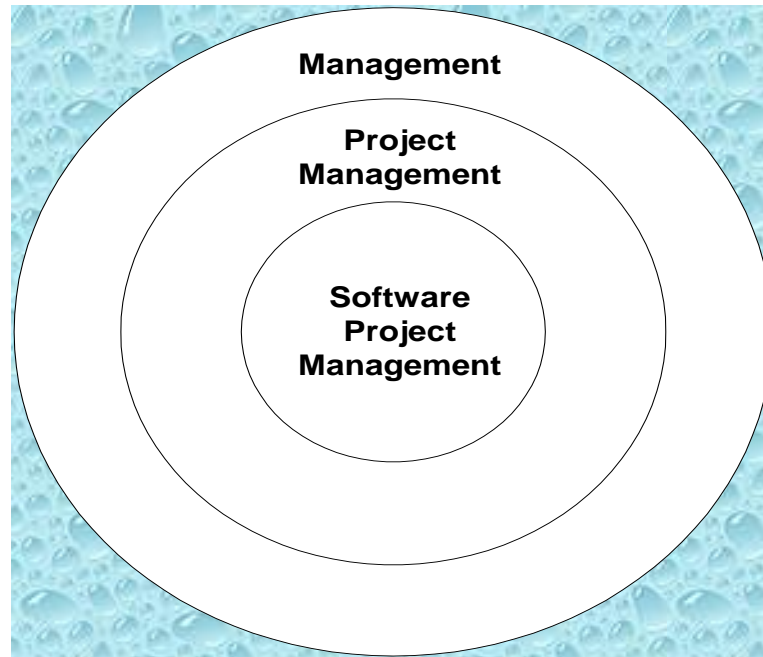
Software Project Management



Software Project Management

27

- ❑ A sub-discipline of project management in which software projects are planned, monitored and controlled
- ❑ Software development is a complex undertaking particularly when it involves many people working over a relatively long time.
- ❑ Hence software development projects need to be managed.

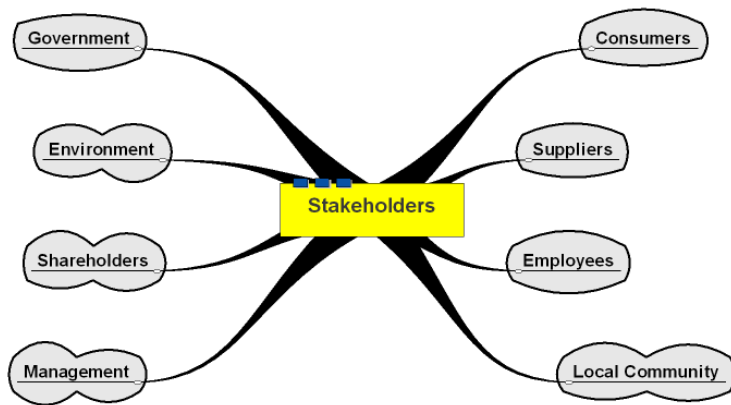


Interaction/Stakeholders [4]

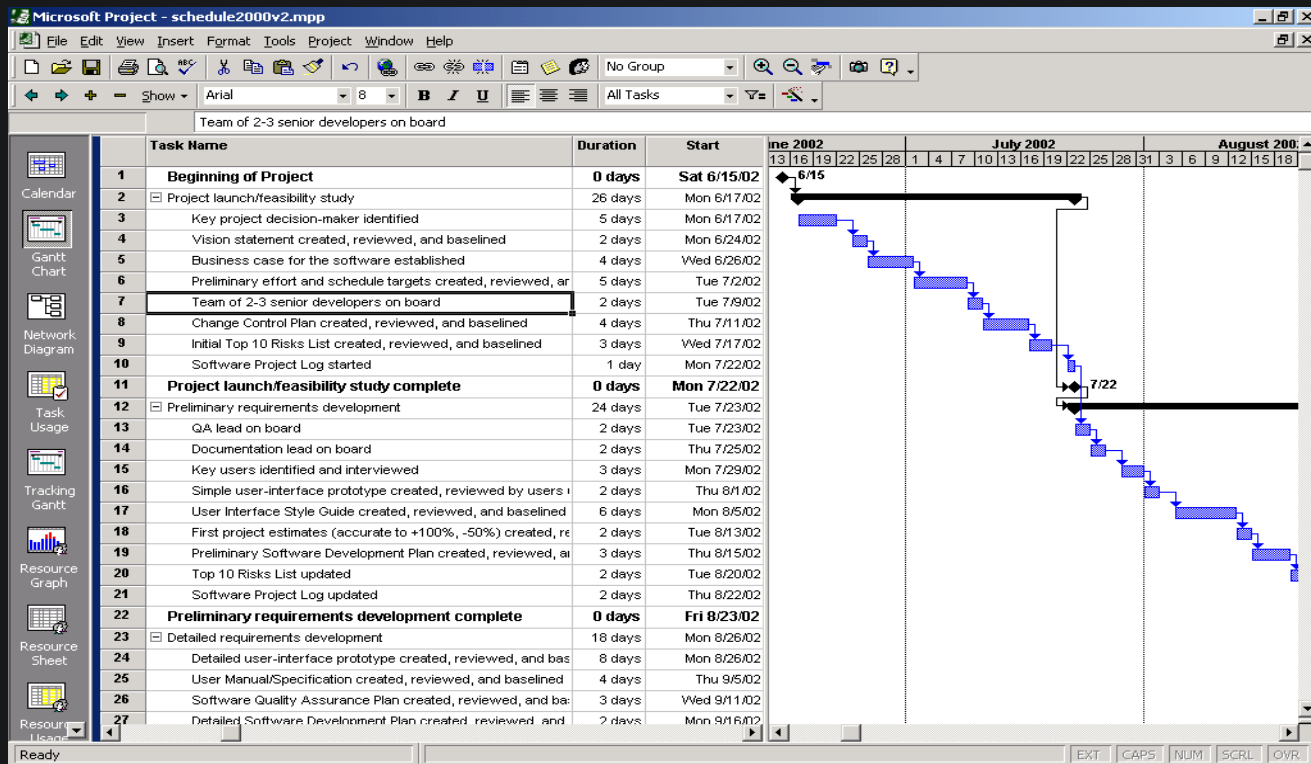
28

- ❑ As a PM, who do you interact with?

- ❑ Project Stakeholders
 - ✓ Project sponsor
 - ✓ Executives
 - ✓ Team
 - ✓ Customers
 - ✓ Functional managers etc



Project Management Tools



PM Tools: Software

30

❑ Low-end

- ✓ Basic features, tasks management, charting
- ✓ MS Excel, Milestones Simplicity

❑ Mid-market

- ✓ Handle larger projects, multiple projects, analysis tools
- ✓ MS Project (approx. 50% of market)

❑ High-end

- ✓ Very large projects, specialized needs, enterprise
- ✓ AMS Realtime
- ✓ Primavera Project Manager

References

1. Software Engineering: A Practitioner's Approach – Roger Pressman
2. Software Engineering Project Management – Richard H. Thayer
3. PMBOK Guide 4rth Edition
4. [http://en.wikipedia.org/wiki/Project stakeholder](http://en.wikipedia.org/wiki/Project_stakeholder)
5. [http://en.wikipedia.org/wiki/A Guide to the Project Management Body of Knowledge](http://en.wikipedia.org/wiki/A_Guide_to_the_Project_Management_Body_of_Knowledge)

For any query Feel Free to ask



32

