

Project Management

Project Management

- What is a Project?
- What is Project Management?
 - “Project Management is the application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholders needs and expectations from a project”

Goals of Project Management

- Performance of a project is measured by three main criteria:
Has the project:

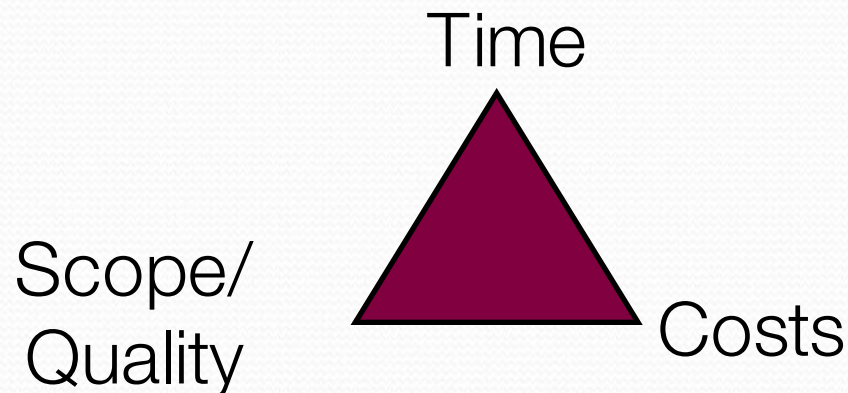
- finished on time ?



- within its cost budgets ?



- and met specified requirements at a level of quality.
which satisfies legal requirements & customers plus
those of the professional development team ?



The Project Management Process

- Involves the following activities:
 - **Planning** – Breaking the project down into manageable size bits (often called the Work structure Breakdown) and schedule them.
 - **A summary plan** - shows key events and milestones in the systems project
 - **Detailed Plans** - used to address a number of different aspects of the project.
 - **Team Organisation**
 - **Implementation**- Day to day conduct of activities in line with the project plan
 - **Control** - Day to day management of activities to ensure that project activities continue to plan and appropriate exception action is taken

Project plan and management needs to fit along side the development methodology

- **Agile using Scrum**

- **A summary plan**

- How long should the sprints be, how many sprints, Burn down or cumulative flow diagrams, Product backlog.

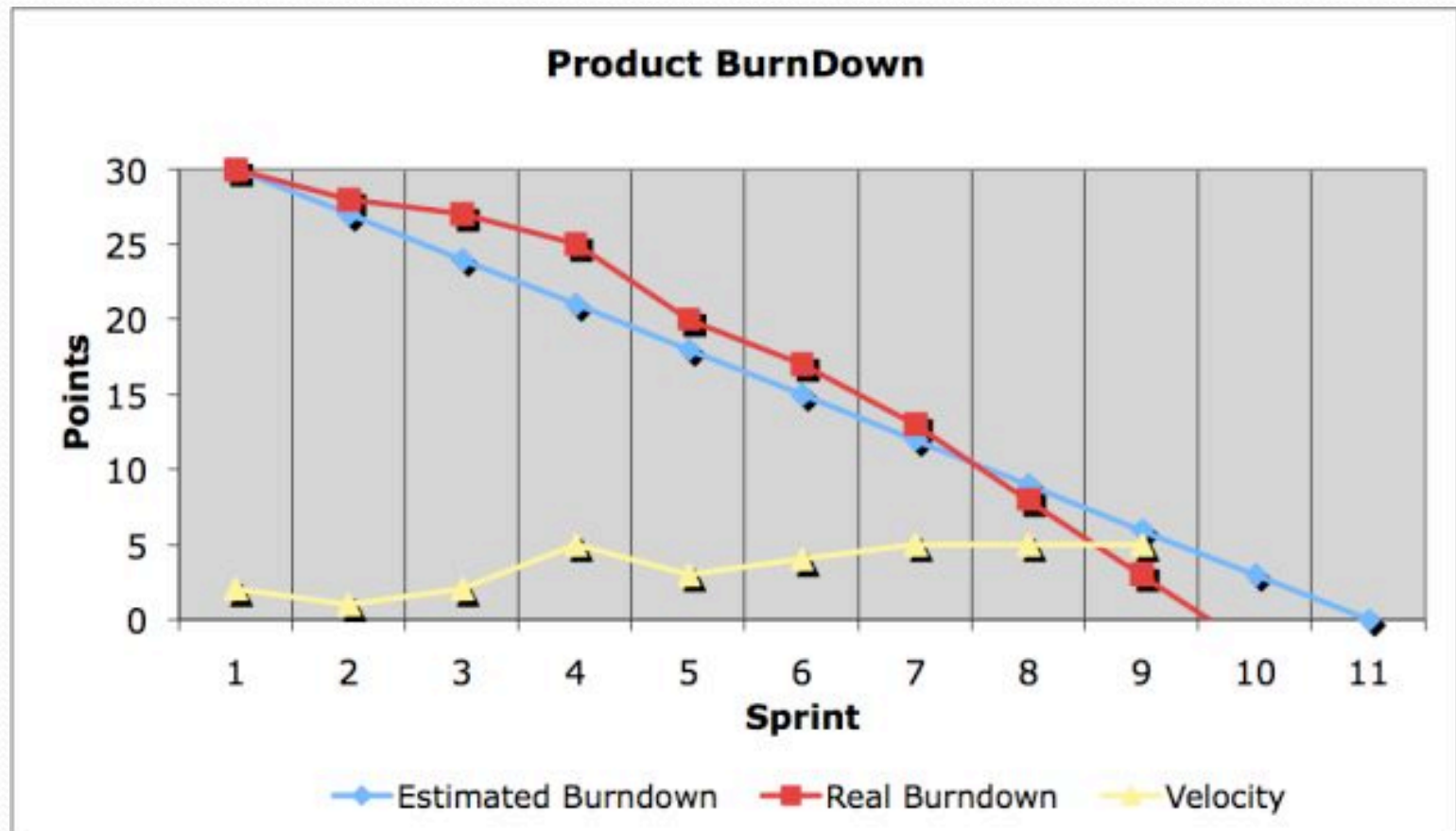
- **Detailed planning**

- A Sprint at a time, Sprint Backlog, Spring planning, estimation using story points, involve the product owner.

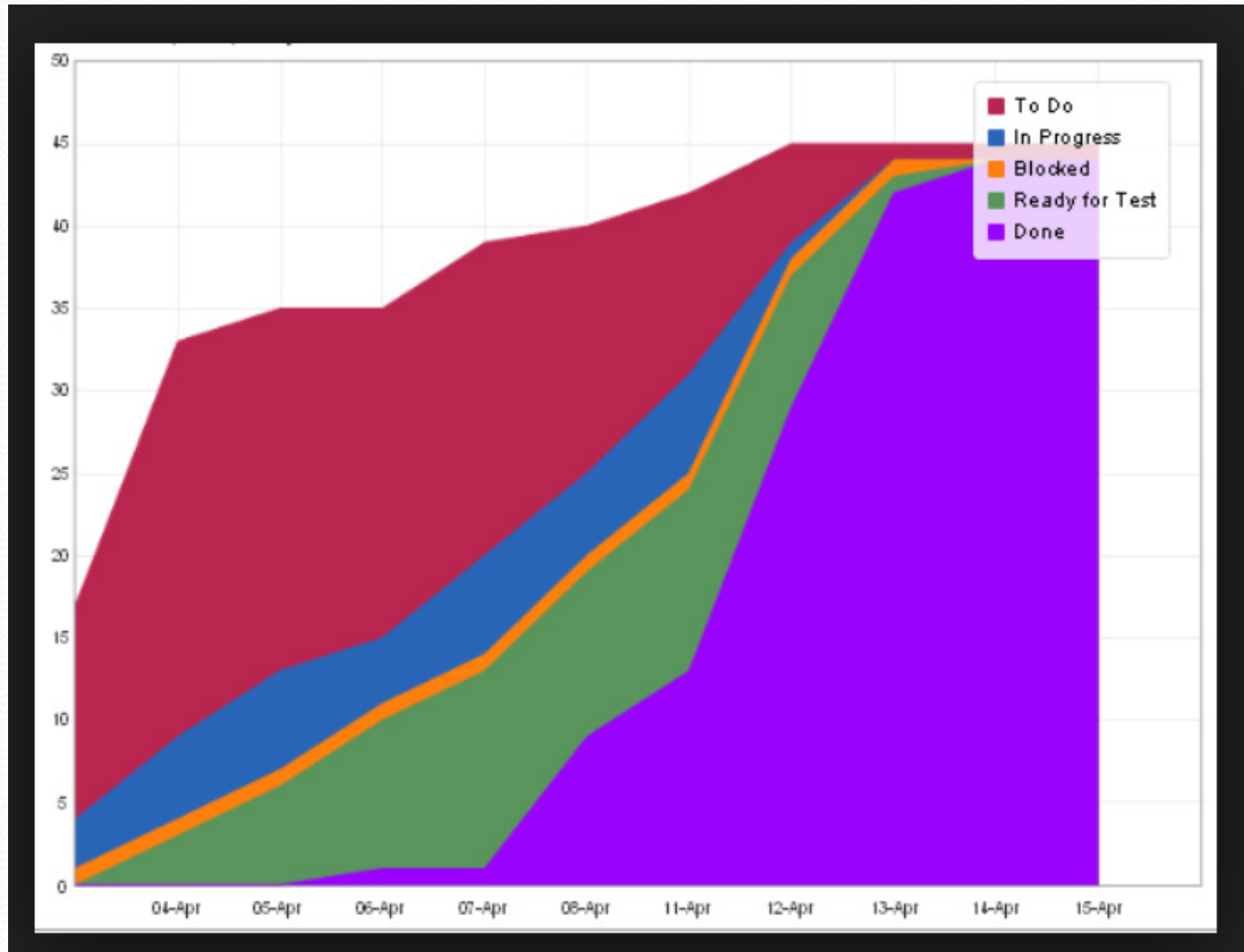
- **Team Organisation-** Self organizing team, Scrum Master rather than Project Manager.

- **Implementation and Control,** Definition of Done, Time boxing, Scrum board (Trello), Sprint Retrospectives and reviews.

Burn down chart



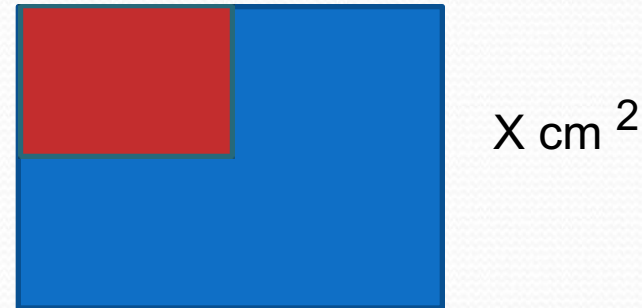
Cumulative Flow Diagram



Estimating Story Points

- A story point is a relative measure of complexity instead of effort (hours etc.) of a user story in agile estimation and planning.
- Planning poker (SCRUM)
 - Cards of 1, 2, 3, 5, 8, 13, 21, 50 – used by the team for discussing the size

We're pretty good at
estimating relatively



A Sprint Board on Trello

The screenshot shows a Trello board interface for a project named "BGR-100 Dev To-Do" created by "Delta Force". The board is organized into three columns: "To Do", "Doing", and "Done".

- To Do Column:** Contains two cards: "Overview page" (0/1) and "Data Service Updates" (0/1). Below the cards is an "Add a card..." button.
- Doing Column:** Contains three cards: "PDF generation" (4/8), "Error Handling -> area information" (1/7), and "Map Updates And Design changes" (2/6). The "Map Updates And Design changes" card has a red notification icon with the number "1". Below the cards is an "Add a card..." button.
- Done Column:** Currently empty, with an "Add a card..." button at the bottom.

On the right side of the board, there is a sidebar with the following sections:

- Members:** A row of member avatars and an "Add Members..." button.
- Board:** Includes "Options", "Add List", and "Filter Cards" buttons.
- Activity:** A section titled "View all..." showing a recent activity by "Martin Jackson on PDF generation" with a list of updates: "left" and "completed Update Service to fix bug with other datafields being".

You always need to plan

- Detailed planning - Info needed for each activity
 - Work detail – What the task is
 - Any Dependencies:
 - e.g. not starting until another activity finishes
 - Estimation (duration or story points)
 - Required resources, (people, equipment)
 - Business value (Priority)

Scheduling the Project – another approach

- Once the work has been broken down into activities this information can then be used to help schedule the project.
 - Project planning techniques
 - Gantt Chart (Bar Chart) –

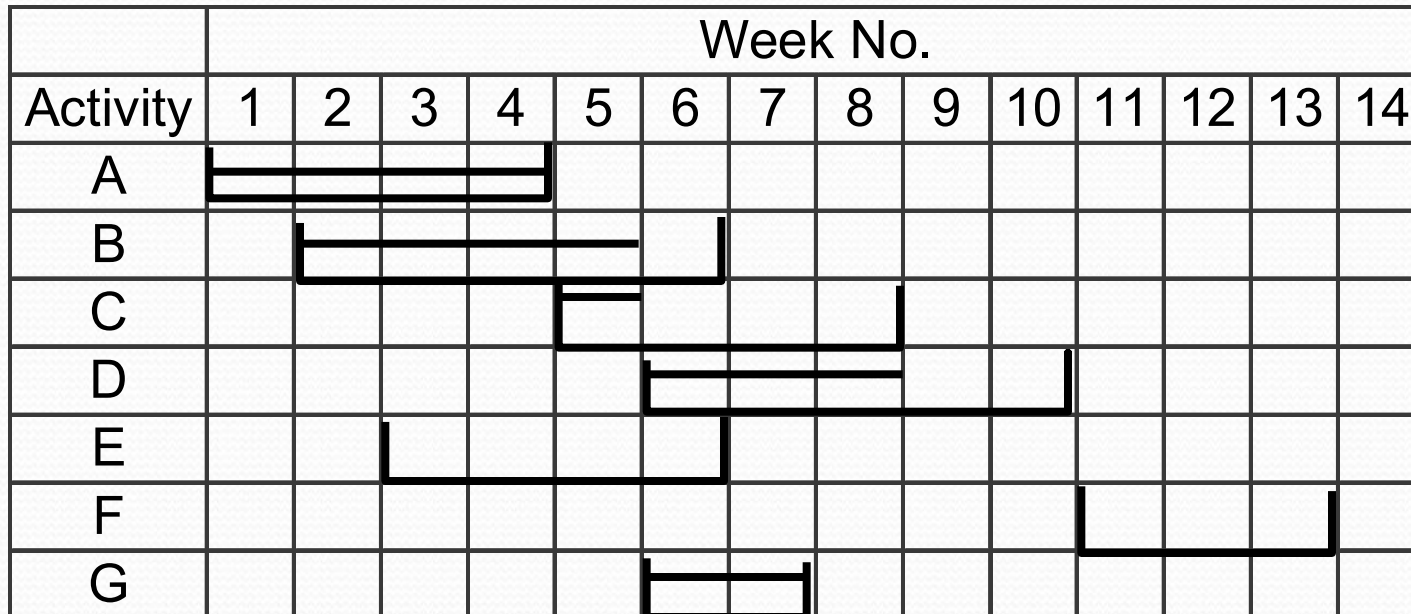
Gantt Chart

An activity is represented as follows:



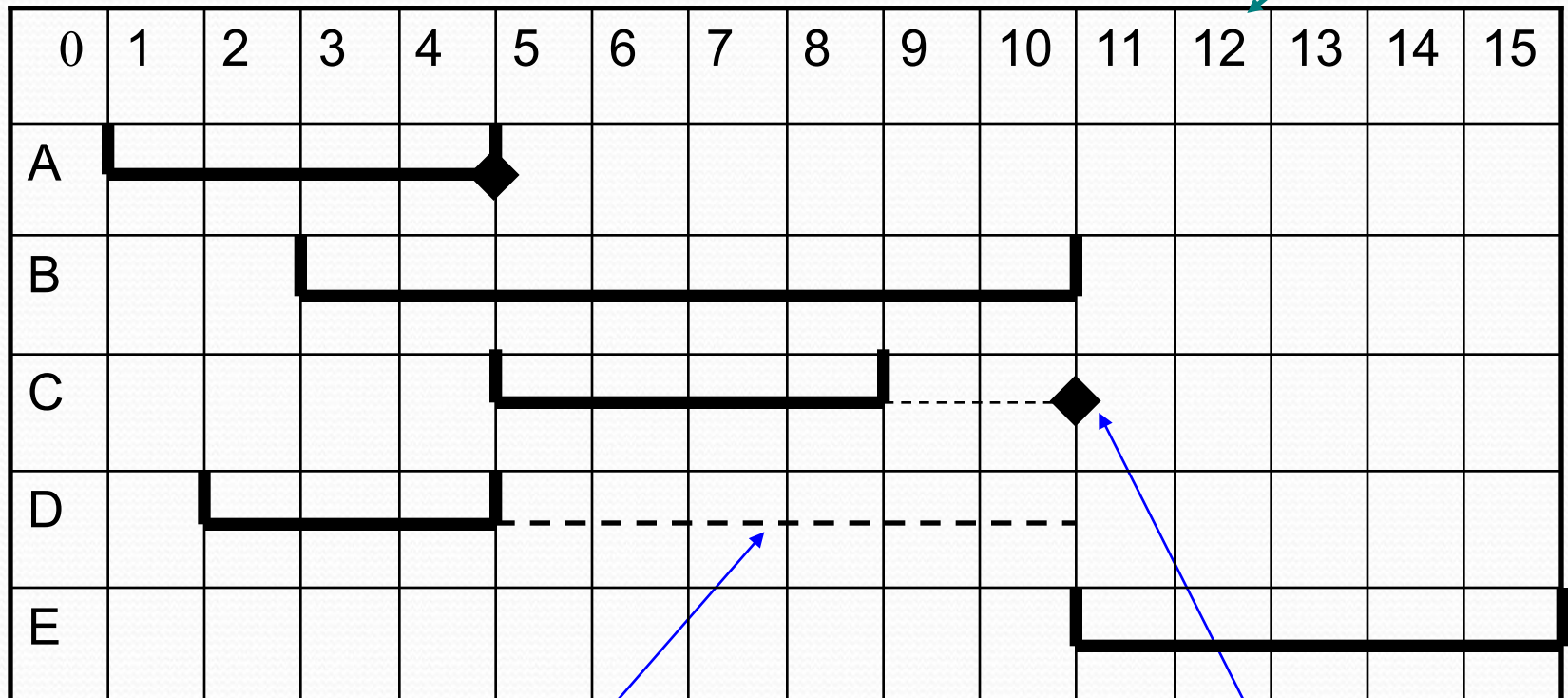
- The length of the line is proportional to the duration time

- A bar is drawn within the uprights to represent the work completed.



Milestone and Float

Time Units



Float

Milestone
(Takes no time to complete)

Milestones

- This may be point at which the product is accepted by the customer, where they sign an agreement (intermediate sign-offs) or stage payments linked to achievement of milestones.
- They provide useful control points at which progress can be evaluated and plans adjusted if necessary. (end of stage of waterfall model)
- For you they could be Coursework dates + other

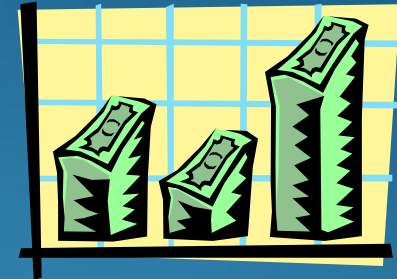
Resource



Manpower



Machines



Finance

- Objective - Forecast and make best use of the resources
- Many tasks have no linear relationship between resources and duration

Estimating

- Programmer's activities are difficult to estimate
 - Some times lines of source code are used
 - But what constitute a line of source code?
- Several techniques MOST rely to some degree on past data or experience.

The total time of a project should includes analysis, design, coding, testing and documentation.

Coursework Submission

	Description		Type	Name
Team Submission	Requirements document including coursework coversheet	Compulsory	One .pdf file	[team number]requirements.pdf
Individual Submission <u>Team File Exchange</u>	Self-Review, and peer reviews for each team member	Compulsory	One PDF	Student_ID&Team.pdf