* + Sprint Planning Meeting
    - SPM is very crucial
    - select what is needed for implementation
    - detailed planning
    - break down stories into smaller tasks

|  |  |  |  |
| --- | --- | --- | --- |
| Inputs | sprint planning meeting   * + - * + team capacity | * + - * + velocity         + know what we can achieve         + estimate team capacity during daily scrum planning mtg   vacation  illness  unexpected plan offs |  |
|  | Sprint prioritization   * + - * + product backlog | * + - * + contains all histories of softwares         + each history has an estimate         + each history has a goal assigned         + product owner assigns         + product owner prioritizes   top priority may cover different areas  if stories are unrelated could make building project difficult  too many design changes during one sprint can make it more likely to break things  select a focus  what is the primary goal? | * + - * + spring goal |
|  | sprint planning   * + - * business conditions       * current product       * technology | * + - * + decide how to achieve sprint goal (design)         + create sprint backlog (tasks) from product backlog items (user stories/features)         + estimate spring backlog in hours   constraints (3)  do not exceed team capacity  make sure that you are selecting high priority stories  don't select stories spread into different areas  to implement a requirement  what are the tasks we have to do?  be as detailed as possible  Remember  product backlog contains stories (features or SRS)  sprint backlog contains tasks to complete the selected stories | * + - * + spring backlog |

* + Daily Scrum Meeting
    - Parameters
      * Daily, ~15 minutes, stand-up
      * Anyone late pays a fine
        + attendance is mandatory
    - Not for problem solving
      * Whole world is invitied
      * Only team members, Scrum Master, product owner, can talk
      * Helps avoid other unnecessary meetings
        + goal is to see are we on track
        + are there any problems
    - Everyone answers three questions:
      * What did you do yesterday?
      * What will you do today?
      * Is anything in your way?
  + The sprint review
    - Team presents what it accomplished during the sprint
    - Typically takes the form of a demo of new features or underlying architecture
    - Informal
      * 2-hour prep time rule
      * No slides
    - Whole team participates
    - Invite the world
      * can provide crucial feedback from customers
      * can prodvide if it looks good
      * can provide if we do or don't need something
      * can motivate developers
    - sprint review should not be a power point
  + Term project advice
    - presentation 1 is power point
    - presentation 2, 3, and 4 should be live product demos (15 minutes each)
      * show some of the functionality
  + Sprint retrospective (lookback at how we can do better as team)
    - Periodically take a look at what is and is not working
    - done after every sprint
    - can be technical or not technical
    - whole team participates
      * scrumMaster
      * product owner
      * team
      * possibly customers and others
    - Questions:
      * what went well?
      * what did not go well?
  + Stop/Stop/Continue
    - whole team gathers and discusses what they'd like to:
      * start doing
      * stop doing
      * continue doing
        + (this is just one of many ways)
  + Scrum Artefacts
    - Product Backlog
      * The requirements
      * A list of all desired work on project
      * Ideally expressed as a list of user stories along with "story points", such that each item has value to users or custoemrs of the product
      * Prioritized by the product owner
      * Reprioritized at start of each sprint
    - User stories
      * Instead of use Cases, agile project owners do "user stories"
        + who (user role) - is this a customer, employee, admin, etc.?
        + what (goal) - what functionality must be achieved / developed?
        + why (reason) - why does user want to accomplish this goal?

as a [user role], I want to [goal], so I can [reason]

* + - * Example:
        + 'as a user, I want to log in, so I can access subscriber content.'
      * story points: Rating of effort needed to implement this story
        + common scales: 1 - 10, shirt sizes (XS, S, M, L, XL) (fibonacci number is another way)

scrum we can't estimate exact days, scrum does not recommend that because it would be inacurate because you are doing things without knowing all the details

scales are comparison only

* + - * Table

        Description automatically generated

* + Graphical user interface, text, chat or text message

    Description automatically generated
    - What is the primary focus?
  + Table

    Description automatically generated
  + Agile team is self managed
    - users sign up for their tasks
    - there is no leader
    - Graphical user interface, text, application

      Description automatically generated
    - complete very detailed planning
    - once a member completes the task, go back to the task list to select a new task
    - sprint backlog is not final
      * tasks can be added, modified, or removed
      * sometimes you can only figure out what needs to be done while working on the project
  + Sprint Burndown Chart
    - Scrum is a project management tool
      * should facilitate the managers to view the status or project
        + burndown chart displays this progress
      * Chart

        Description automatically generated
      * Example of sprint backlog
        + Chart, line chart

          Description automatically generated

the numbers underneath mon/tues/wed/… are hours assumed each task will take

chart shows overall trend

we want to see it going down showing all tasks will be completed on time

* + - * + Chart, line chart

          Description automatically generated

* + Table

    Description automatically generated with medium confidence

* + Chart, line chart

    Description automatically generated

* + A picture containing chart

    Description automatically generated
    - did not select an adequate number of stories
    - overestimated stories
  + Why Agile?
    - Chart, box and whisker chart

      Description automatically generated
      * software industry involves trillions of dollars
      * to change how software is developed, evidence is needed that
      * CHAOS Project
        + published report agile vs traditional

discusses why projects fail

* + Who have adopted agile development?
    - Logo, company name

      Description automatically generated
      * 60% of software companies are agile now
      * has become industry standard
  + Credits, References
    - Timeline

      Description automatically generated with medium confidence

* + Planning Goals
    - Define a sprint goal
    - Determine team capacity
    - Prepare a sprint backlog
  + Team Capacity
    - Number of ideal hours in the work day
    - Days in the sprint that the person will be available
    - Percentages of time the person will dedicate to this team
  + Expected work hours
    - 2 hours of Student work out-of-classroom per week per credit hour
    - Expected to work: 4 x 2 hours = 8 hours each week outside class
    - 4 week sprint (32 outside class hours / student)
      * when you plan your sprint select tasks that take 1-3 hour
    - Graphical user interface, text, application

      Description automatically generated

* + Graphical user interface, text, application

    Description automatically generated

* + Graphical user interface, text, application

    Description automatically generated
    - most important issue to understand
      * uml diagram
        + name of entity
        + name of relationship
        + multiplicity
    - models
      * provide a simplified view
      * helpful to understand software quickly
    - goal of software modeling
      * save time
    - Graphical user interface, text, application

      Description automatically generated

* + Graphical user interface, text

    Description automatically generated with medium confidence

* + Graphical user interface, text, application

    Description automatically generated
    - identify what is the code part of the system
  + Text

    Description automatically generated

* + A picture containing graphical user interface

    Description automatically generated