#### Team Development

#### EECS 541 Computer Systems Design Laboratory Prasad Kulkarni

### Team Size and Composition

- Small: 3—5, Large: >8 or so
  - small teams can work faster, be more productive
  - large teams should have an expert facilitator, create sub-teams, can produce more ideas
- Teams should include people with different skills
  - technical experts, administrative skills, interpersonal and communication skills
- Teams should include people with different and diverse personality traits
  - Myers-Briggs Type Indicator (MBTI)
  - Five Factor Model (FFM)
  - Belbin's nine roles required for successful teams
  - identify traits in people and assign them to teams

## Myers-Briggs Type Indicator

- Wikipedia an introspective self-report questionnaire designed to indicate psychological preferences in how people perceive the world and make decisions
- Four preferences myersbriggs.org
- Favorite world
  - do you prefer to focus on the outer world (Extraversion E) or on your own inner world (Introversion I)?
- Information
  - do you prefer to focus on the basic information you take in (Sensing – S) or do you prefer to interpret and add meaning (Intuition – N)?

# Myers-Briggs Type Indicator – 2

- Decisions
  - when making decisions, do you prefer to first look at logic and consistency (Thinking – T) or first look at the people and special circumstances (Feeling – F)?
- Structure
  - in dealing with the outside world, do you prefer to get things decided (Judging – J) or do you prefer to stay open to new information and options (Perceiving – P)?
- Decision on each category gives your personality score as a four letter code.

# Myers-Briggs Type Indicator – 3

- References
  - <u>https://en.wikipedia.org/wiki/Myers%E2%80%93Brigg</u>
    <u>s Type Indicator</u>
  - <u>http://www.myersbriggs.org/my-mbti-personality-</u>
    <u>type/mbti-basics/</u>
  - <u>http://www.humanmetrics.com/cgi-win/jtypes2.asp</u>
  - <u>https://www.quora.com/What-is-the-most-accurate-</u> <u>free-online-Myers-Briggs-test</u>
  - <u>http://www.16personalities.com/free-personality-test</u>

## Five Factor Model

- Covers different personality aspects of team members
  - Extraversion defined by adjectives; active, assertive, energetic, enthusiastic, outgoing, talkative
  - Agreeableness defined by adjectives; appreciative, forgiving, generous, kind, sympathetic, trusting
  - Conscientiousness defined by adjectives; efficient, organized, planful, reliable, responsible, through
  - Neuroticism defined by adjectives; anxious, selfpitying, tense, touchy, unstable, worrying
  - Openness defined by adjectives; artistic, curious, imaginative, insightful, original, wide-interests
- McCrae, Robert R., & John, Oliver P. (1992, June), An Introduction to the Five-Factor Model and Its Applications, 1. published in the Journal of Personality, vol. 60:2, Blackwell Publishing Ltd. EECS 541 Computer Systems Design Lab 6

### Five-Factor Model – 2

- Extraversion may increase team viability and communication
- Agreeableness may increase team cohesion, communication and productivity
- Conscientiousness may increase overall team performance
- Neuroticism (or emotional stability) may increase cohesion and overall performance
- Openness may lead to increase in communication

#### Belbin's Nine Roles for Successful Teams

- Leader and organizer (usually one)
- Hands-on worker (more than one may be needed)
- Realist or "naysayer"
- Conformist or utility worker
- Artist or designer
- Social worker who helps to ease team relationships
- Specialist
- Resource investigator
- Motivator
- 1. Belbin, R.M. (1981). Management Teams: Why They Succeed or Fail. Oxford: Heineman Professional Publishing.
- DeAgostino, T. H., & Jovanovic, V. M., & Thomas, M. B. (2014, June), *Simulating Real-World Work Experience in Engineering Capstone Courses* Paper presented at 2014 ASEE Annual Conference, Indianapolis, Indiana. https://peer.asee.org/23016 EECS 541 Computer Systems Design Lab 8

#### Team Roles – Other Literature

- Leader prepare/lead meeting, direct team activities towards goals, ensure productivity
- Facilitator ensure equal participation, mediate/resolve conflicts, support leader
- Member includes all, offer ideas and perspectives, actively participate, complete assignments on time
- Recorder take meeting minutes, distribute meetings to team members
- Timekeeper ensure team stays on time budget

### Bruce Tuckman's Stages of Team Development

- Forming
  - anxious, polite interactions, role unclear, excitement about task ahead
- Storming
  - conflict due to different working styles, criticism of ideas and team goals, polarization, coalition forming
- Norming
  - reduction in role ambiguity, work together, respect roles in team, team feeling
- Performing
  - all cooperating, working hard to achieve team goals, some leaving or joining the team does not affect productivity

### **Recommendations for this Class**

- Team sizes should be between 3-5
- Rotate team roles
- Document minutes of team meetings
- Be active listener, supportive, cooperative, participate in all team meetings, show respect for others' contributions, share responsibility and success/failure of team

## **Assignments and Deadlines**

- Complete MBTI/personality assessment test
  - will be sent via email
  - verify that team is diverse and adapt
  - Deadline Oct. 24<sup>th</sup>
- Assign and rotate team roles
- Document all team meetings
- For each project submission, each team member will score every other team member
  - will be used to assign differential score to members on the same team
- October 24<sup>th</sup> is deadline for initial proposal submission
  - initiate discussions with me and the GTA