SWINBURNE UNIVERSITY OF TECHNOLOGY

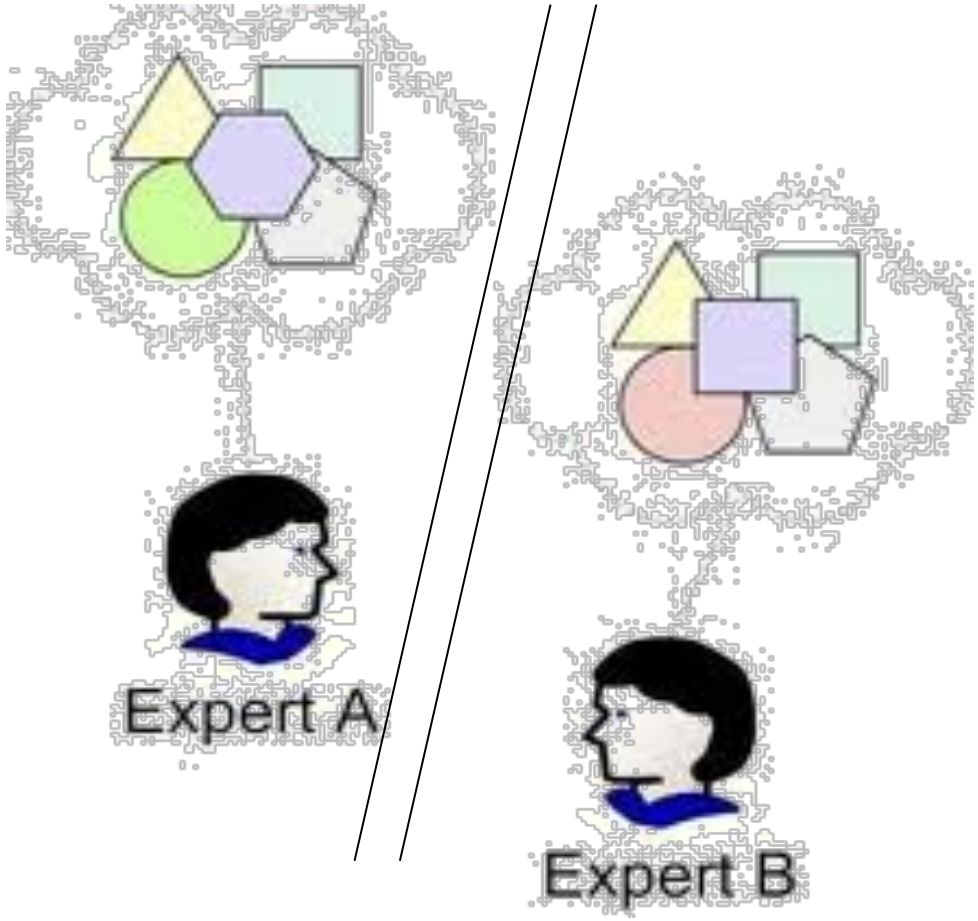
SWE30010
Development Project 2: Design, Planning and Management

Lecture 6c

Estimating by Experts and Delphi Techniques

Estimating by Experts

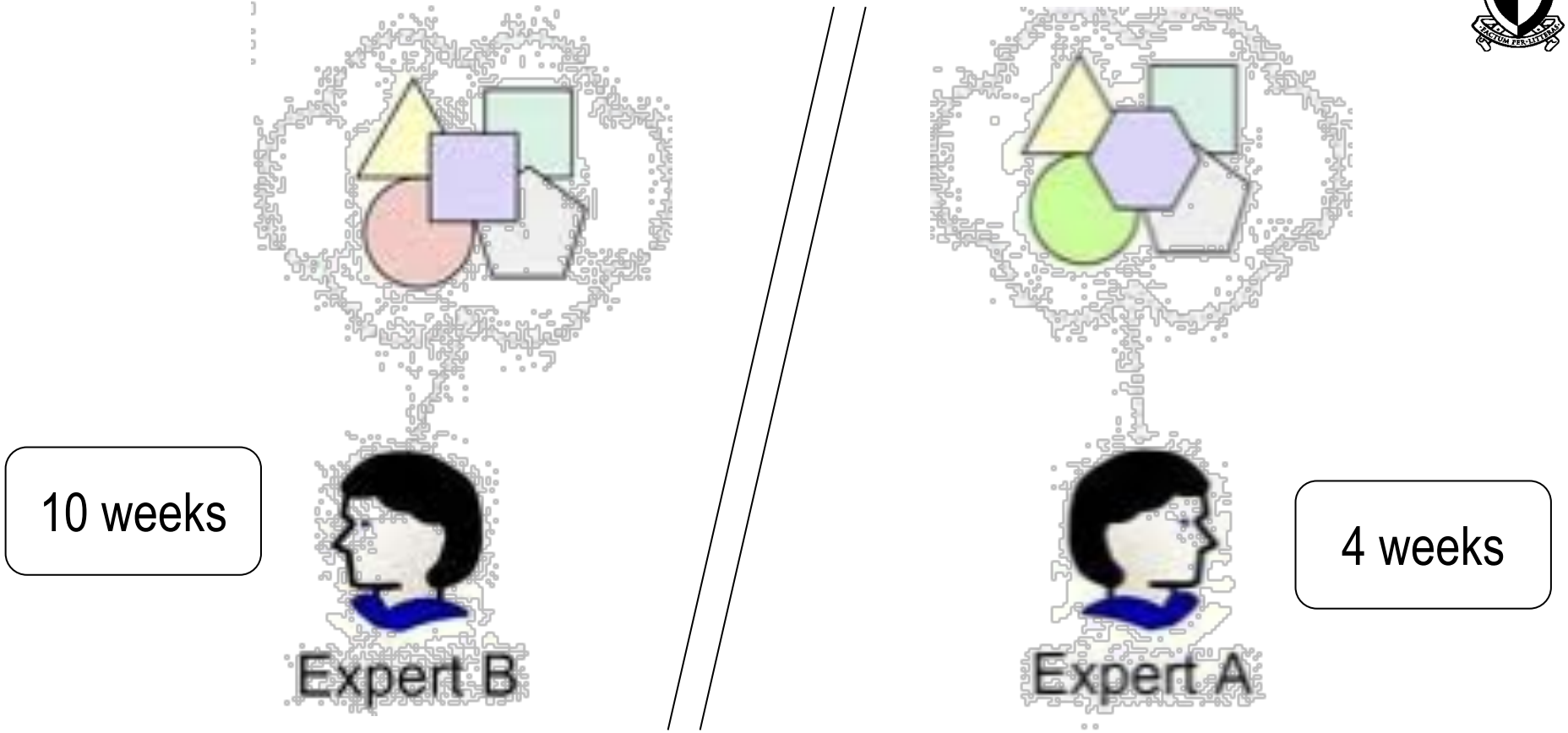
- Ask the expert to do the estimation for you



Experts – Where to find them?

- More experienced people in your organization
- People who have done many similar related work before
- …

Q: Experts don't agree ?



Use Delphi (Estimating) Technique

Scrum Poke (aka Planning Poker), a variant of Delphi

Example – Paint Your Bedroom – Delphi

Expert A

- 3m (l) x 3m (w) x 2.3m (h)
- 4 days
- Paint cost $400

Expert B

- Same room
- 1.5 days
- Paint cost $700

Example – Peer Review System – Delphi

Expert A

- Allow a student to submit a peer review assessment about one team member
- 20 hours

Expert B

- Allow a student to submit a peer review assessment about one team member
- 40 hours

Delphi Technique (Original)

- Have a panel of experts in the field
- Brief the panel about the nature of task / activity to be estimated
- Each panel member makes an “estimate” of their own
- Hold a panel meeting for the panel to discuss their estimates together, hopefully come to an agreement
  - Members may present their viewpoints and discuss among themselves
  - May take hours to come to an agreement
- After the meeting, the panel comes up with one estimate that they all agreed on
- Use that final estimate

Delphi Technique – One Variation

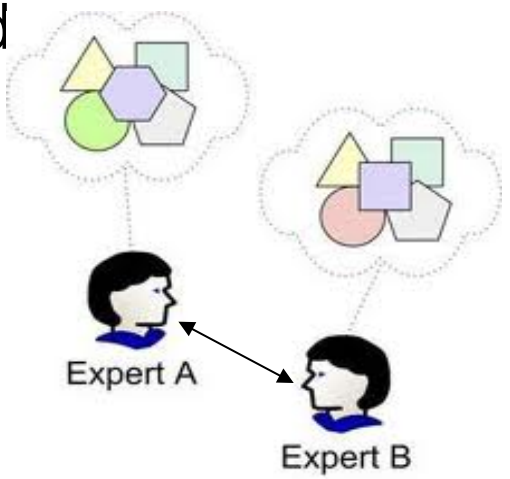
Technique exploiting “knowledge” in the project team:

i. Brief team about nature of task/activity to be estimated

ii. Each team member makes a “best guess” estimate
   - ☐ Based on their past experience

iii. Estimates are summarized/tabulated

iv. “Outliers” comment on reasons for their estimates



v. Based on new “evidence”, team members estimate again

vi. Repeat steps (iii) to (v) a “few times”, with each person influenced by their peers’ judgments
   - ☞ Rule of thumb: 2 to 3 times

vii. Take average estimate as team’s estimate of task/activity

Example – Paint Your Bedroom – Delphi

Expert A

- 3m (l) x 3m (w) x 2.3m (h)
- 4 days
- Paint cost $400

Assumption

- Use a normal paint, takes at least 24 hours to dry
- Do undercoat

Expert B

- Same room
- 1.5 days
- Paint cost $700

Assumption:

- Use fast drying paint (dry in 10 hours) but more expensive
- No undercoat

Example – Peer Review System – Delphi

Expert A

- Allow a student to submit a peer review assessment about one team member
- 20 hours

Assumptions

- No validation of student id
  - Can enter any student id
- Enter text in the required field
  - No validation, can enter “X”
- No email sent

Expert B

- Allow a student to submit a peer review assessment about one team member
- 40 hours

Assumption:

- Need to verify student id
  - ensure they are in the same team
- Use dropdown / combo box
- Send an email to the submission student for record

Delphi Technique – Issue

- Hope the panel / team can come up with one estimate – What if they could not?