

Using ACs as a Decision Aid

John Goodenough, Software Engineering Institute

AC as an object of analysis

- Provides info relevant to making a development or deployment decision
- Helps answer questions relevant to certain decisions

Relevant questions

Deployment (Risk: Impact of failure)

- Beta test release (How much confidence needed?)
- Operational release (More evidence -> less risk)
- Release after patching or upgrading (Reuse what parts of the case?)

Development (Risk: Cost of rework; schedule delay)

- Authorize certain development activities
 - Requirements sufficiently stable?
 - Design sufficiently stable?
 - Performance satisfactory?

After System Change

Is test suite still adequate?

- AC evidential defeaters determine test set adequacy, e.g., MC/DC criterion

Security requirements still met?

- AC helps identify what evidence is required

Make meta case

- Show what can be safely reused from the original case

AC Incremental Development

- Some parts of a case become less important as more is known, e.g.,
 - Conformance with interface standard to prevent user errors (reduces potentially costly design errors)
 - Check for interface errors when users are
 - Knowledgeable (e.g., the developers)
 - Trained real users
 - Naive
 - Impact of actual operational data