

Documenting Detailed Project Requirements

Creating Design Artifacts

Most Makers Design Before They Build

- In most disciplines, the maker's time and materials are expensive and scarce.
- Makers rarely just begin producing the end result with the production quality materials at full-scale.
- Many create sketches of the end product with paper and pencil.
- Some create models of the end product at a smaller scale.
- Some create full-scale prototypes with less expensive materials.
- Many create templates using less expensive materials from which to produce expensive components.

Examples of Design Before Build

- Fine artists create sketches.
- Home builders create floorplans, elevations, electrical plan, plumbing plan, etc.
- Road builders create drawings and blueprints.
- Even experimental builders create sketches: *MythBusters*.

Examples of Design Before Build in Software Development

- Waterfall approaches can include many artifacts including use case diagrams, use case specifications, program specifications, conceptual data models, physical database designs, interaction design diagrams, report designs, screen designs, etc.
- Agile approaches can include documentation of user stories and epics, conceptual data models, physical database designs, etc.
- Both approaches should be documenting non-functional requirements.

The Claim That the Agile Code Is The Design

- Early system prototypers built systems from lightweight scripting languages.
- These prototypes were meant to serve as the design.
- Prototypes were meant to be models that were thrown away.
- By contrast, systems built by agile teams are built with production-quality code.
- Agile system components are not cheap to build.
- **Most of the savings in this approach come from the minimalist pressure created by agile time boxing.**
- In agile development, the materials are cheap, the time is expensive.
- Design artifacts can reduce cost and increase quality.

IS594-PJ Expected Design Artifacts For Waterfall Software Project

- Use case specifications (might include activity diagrams)
- Conceptual data model
- Non-Functional requirements
- User Interface Design

IS594-PJ Expected Design Artifacts For Agile Software Project

- User stories (might include epics)
- Conceptual data model
- Non-Functional requirements

IS594-PJ Expected Design Artifacts For Projects Other Than Software Development

- You need to determine typical design artifacts for your type of project.
- Consult with Kevin regarding their sufficiency.

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