
Type of paper: Enhanced method

Correlation to the real-world setting: The authors mention some of the constraints in real-world settings that make the rational process impractical: the customer may not know what they want, details may force revision of the requirements, complete requirements may be too complex for programmers to understand, external changes may affect the requirements, humans make mistakes, humans bring preconceived ideas to the project, some constraints are imposed by reused software.

What is the hypothesis: Approximating the documents that would be created with the rational process is beneficial.

Validation: Only persuasion: the documents guide designers, settle fights between programmers, allow programmers and users to communicate, avoid repeated questions during development, allow estimates of the amount of work, help projects to cope with turnover, and provide the basis for a good test plan.

Result: Ideas about the content of requirements documents: every statement should be valid for all acceptable products, a product that satisfies every statement must be acceptable, missing information should be identified, and the document should be organized for reference rather than a narrative introduction to the product. Design the module interfaces to allow programmer to work in parallel. Start the documentation early in the development effort.

Do you believe the result, and why? There are some good ideas here, but I also see some problems. The authors assume that a single document can be detailed enough to guide the programmers but comprehensible for the users. I don’t think that this is the case. The specification about the content of the document (computer specification, I/O interfaces, output values, timing constraints, accuracy constraints, likely changes, error handling) is dated. The plan and design of the module structure should have milestones for partial integration and testing. Literate programming/self-documenting code is probably a better plan that the module internal structure document. I think that the documentary hypothesis chapter in MMM indicates that the project being discussed was already following many of these techniques. In light of this, the author’s assumption that the documents will ameliorate the cost of adding people to the project described in MMM is highly questionable. Of course, things would probably be even worse with less documentation.