Experiences with an SPM card game: Problems and Programmers

CS846: Software Project Management

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Problems and Programmers

- Created by Alex Baker and colleagues at the University of California, Irvine
- Designed to help teach the software development process
- http://www.problemsandprogrammers.com
- Several publications outline author's experience with the game

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Why P&P?

- Present the Waterfall Software Process Model in a fun way
- Supplement in class lectures and lab assignments to help students recognize the importance of the process
- Complete software engineering projects can take a long time, while game should be much faster.
- Repetition is key to a student remembering and understanding the process

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Objective of P&P

- Take on the role of a Software Project Manager
- Finish your software development project before your opponent (within specifications and on time)

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The P&P Card Decks

- Project Deck
  - Complexity
  - Length
  - Quality
  - Budget
- Documentation Deck
  - Used for Analysis and Design Stages
  - Contains Clear and Unclear cards

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The P&P Card Decks (cont)

- Main Deck
  - Programmers
  - Concepts
  - Problems
- Code
  - Good (blue) and Rushed (red) code
  - Simple, Normal, and Nasty bugs

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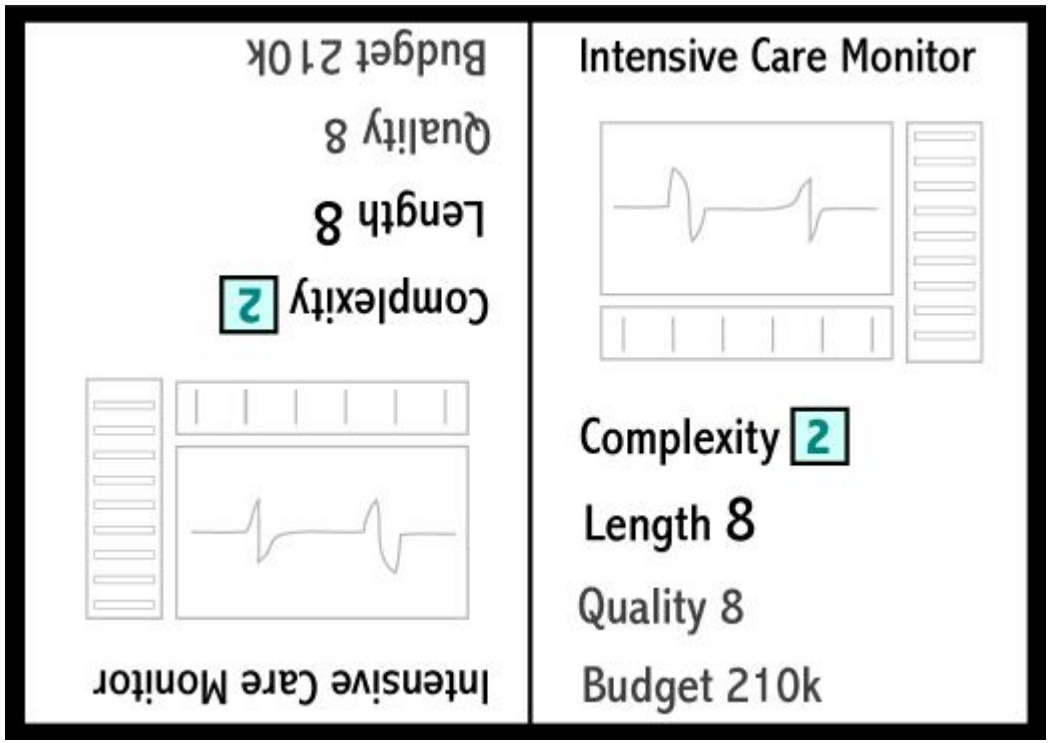
Project Cards



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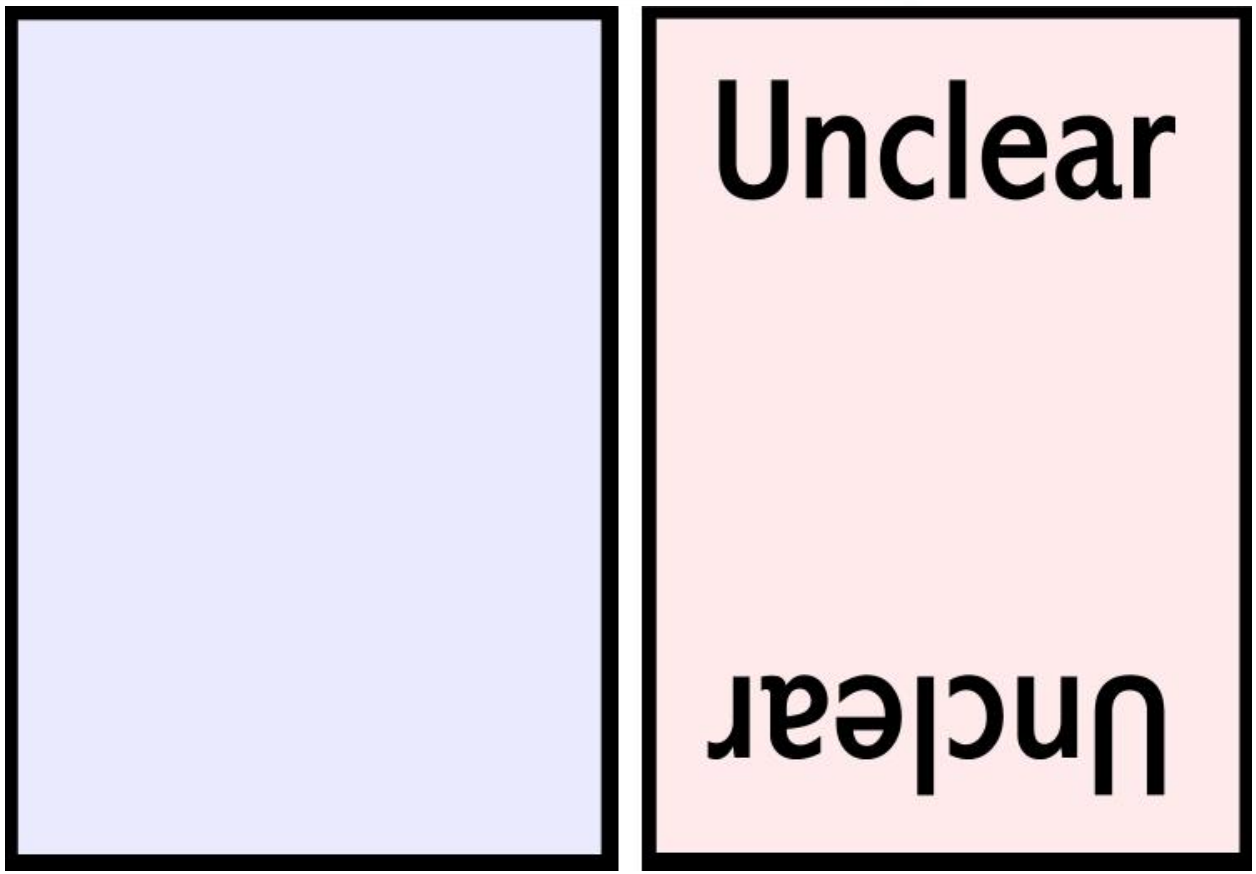
Documentation Cards



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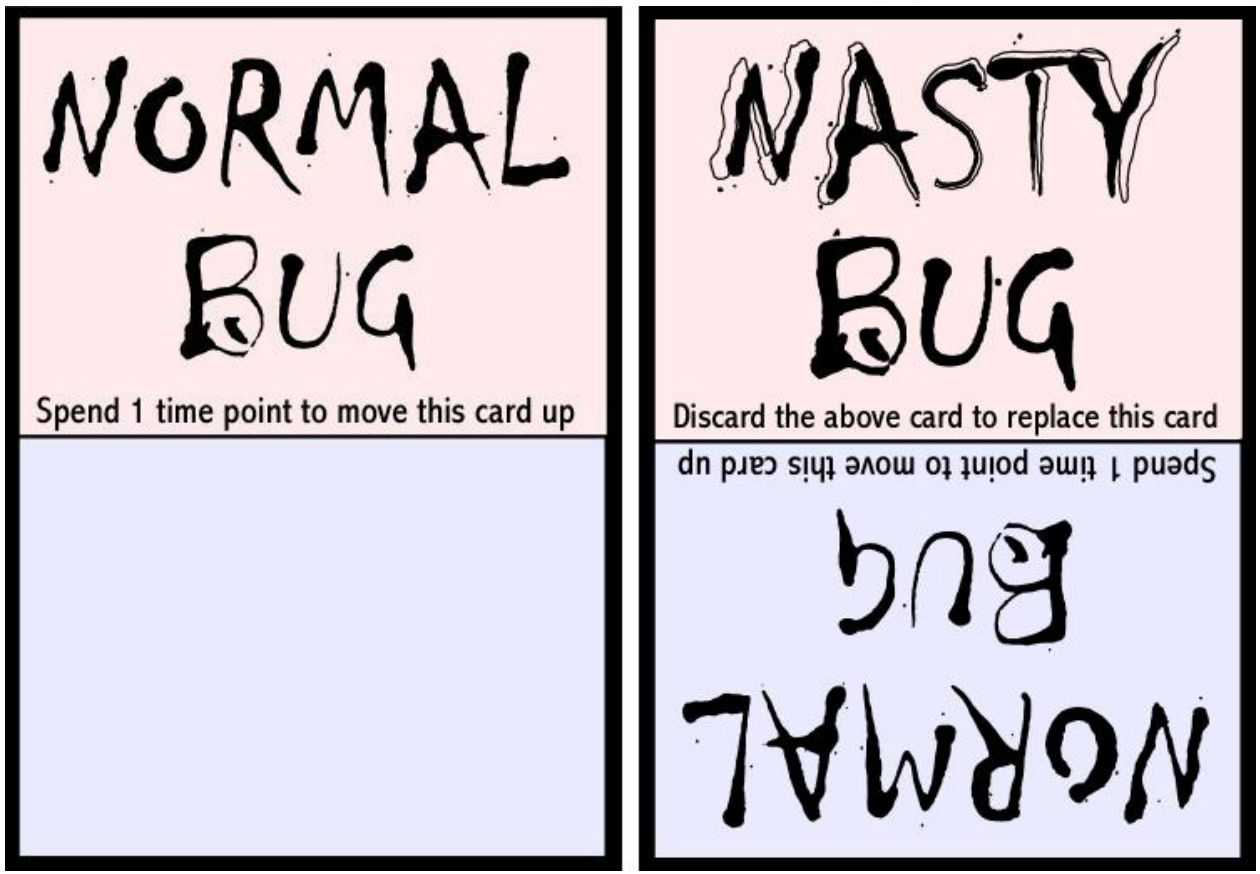
Code Cards



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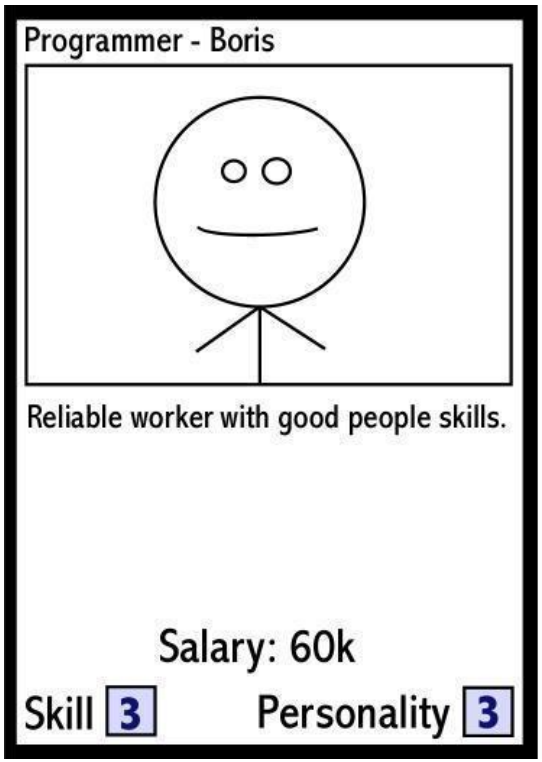
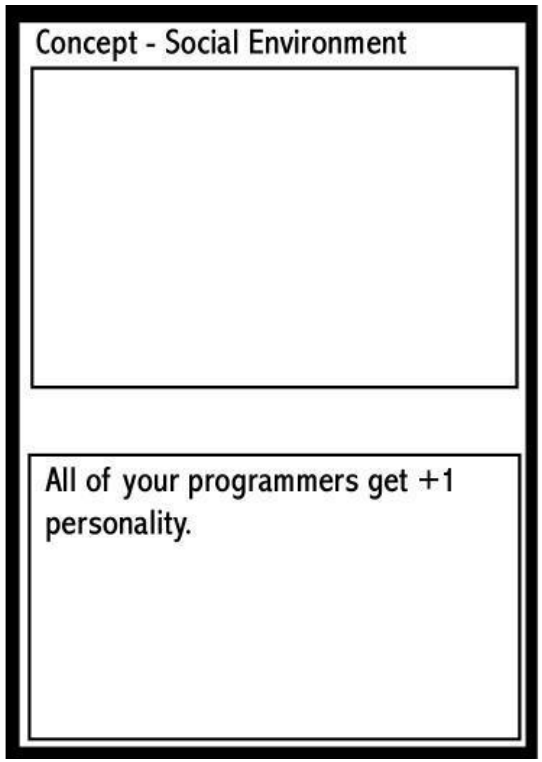
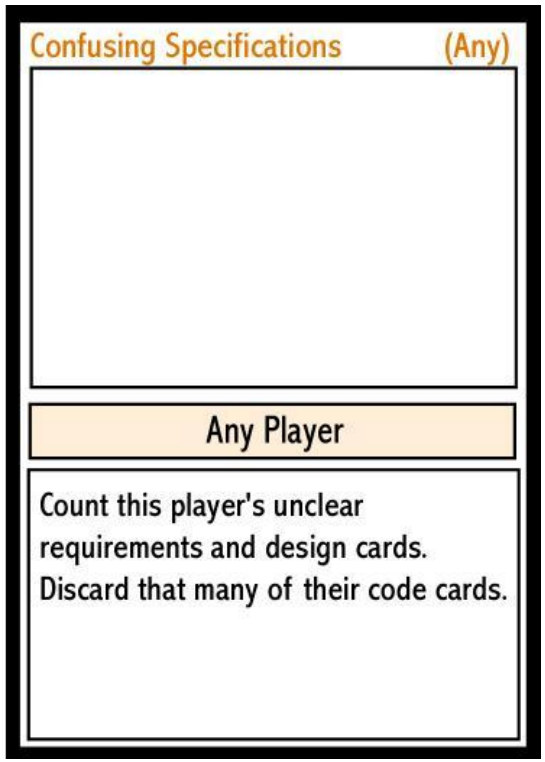
Main Cards







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Playing The Game

- Turn structure consists of 5 general phases
  - Choose Project Stage
  - Draw Cards from Main Deck
  - Take action based on Project Stage
  - Play Programmer and Concept Cards
  - Discard unneeded cards

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5 Stages of the Waterfall Model

- Analysis
- Design
- Implementation
- Integration
- Project Delivery

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Playing Area

The Waterfall Model

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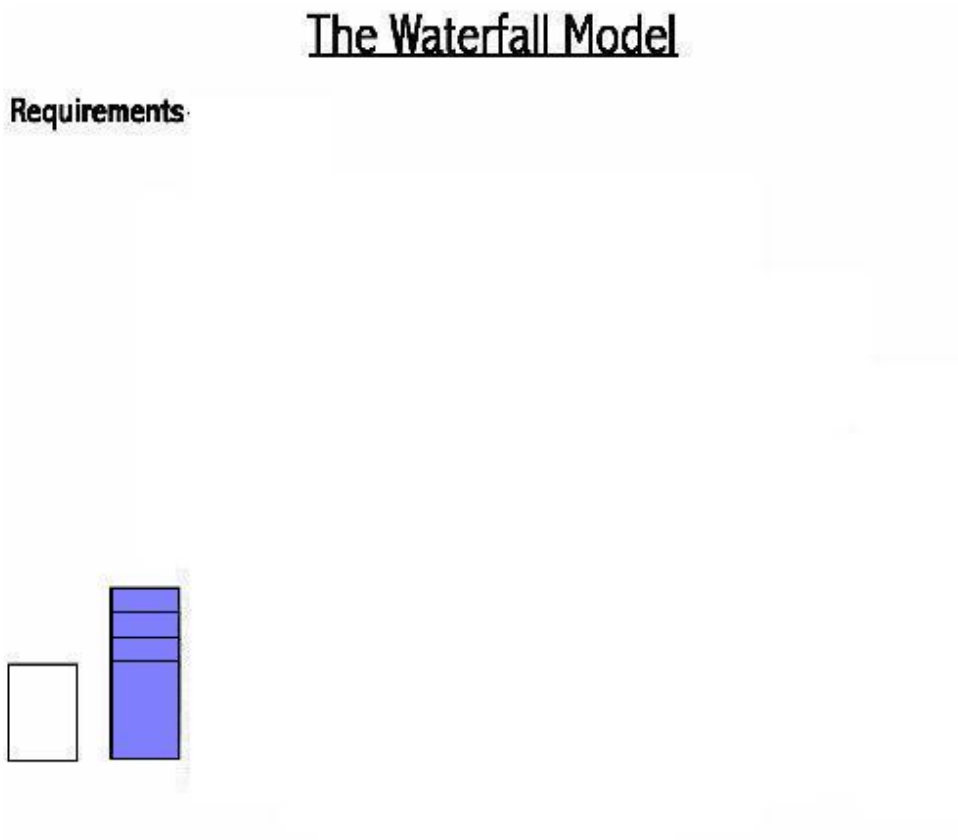
Playing Area



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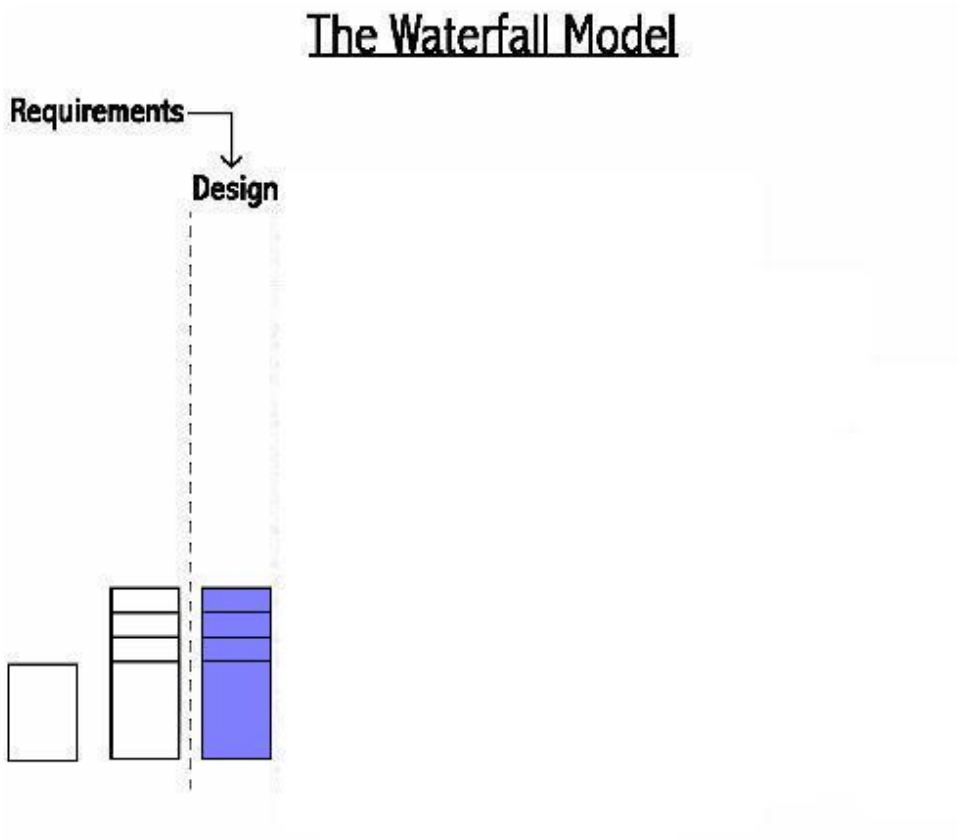
Playing Area



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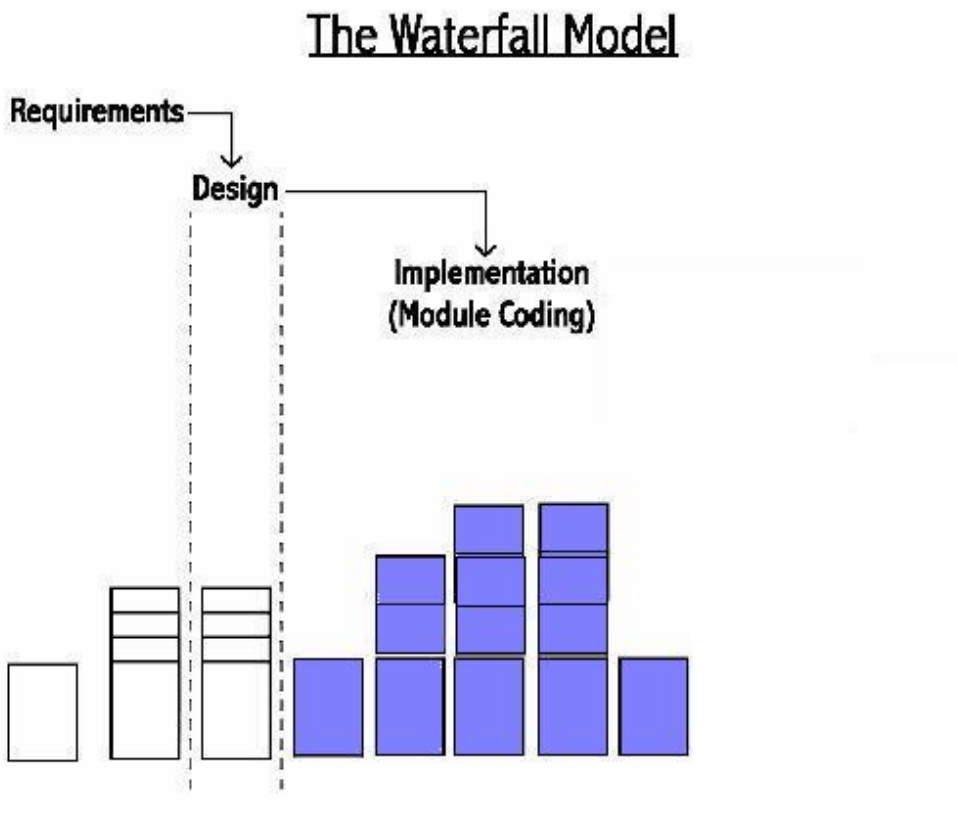

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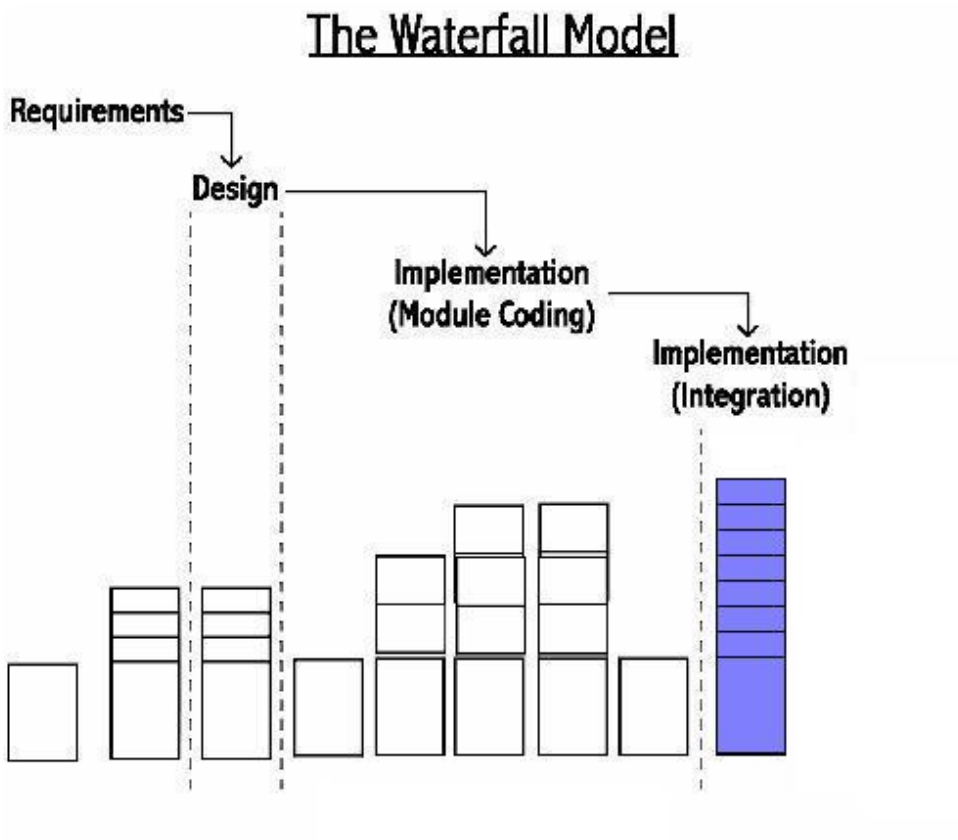

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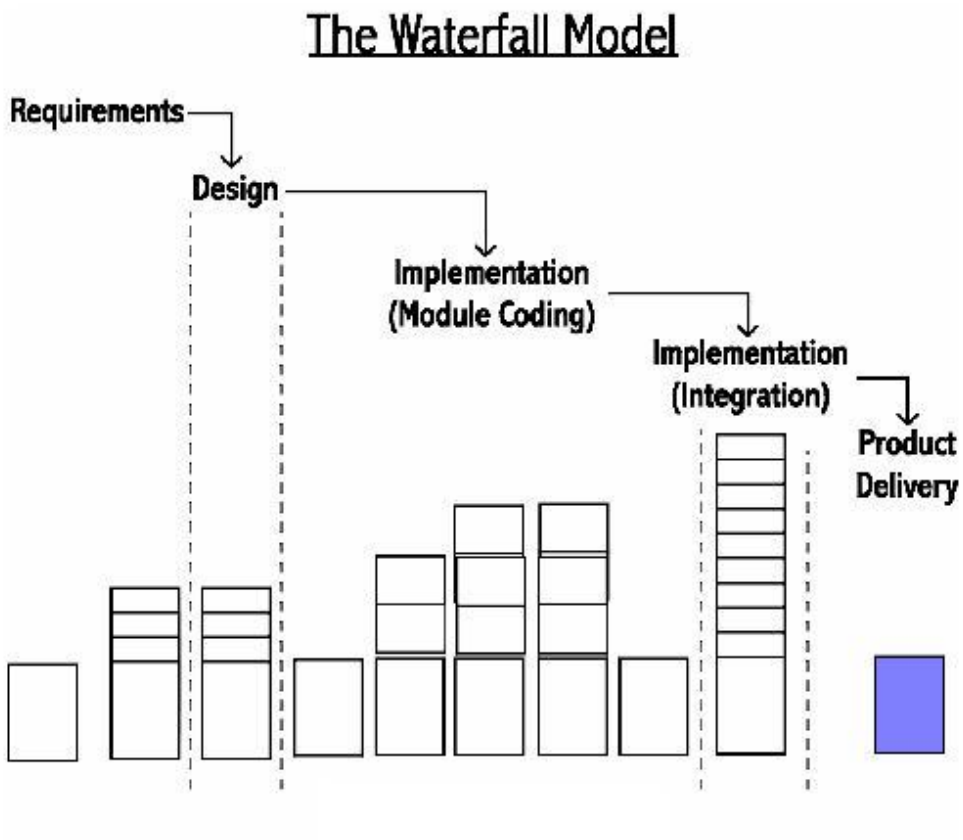
Playing Area



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Experiences: Positive

- Drilled home the stages of the Waterfall Model
- Demonstrated negative effects of rushing through, and skipping stages
- Demonstrated advantage of proper Analysis and Design
- Several hours relaxing at the Grad House, while still performing assignment tasks +++

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Experiences: Negative

- Color Cards expensive to print, B&W Cards took time to generate.
- Unclear how many players can play (2?)
- What are the Analysis Cards?
- Lengthier learning curve than expected
- Need to play multiple games to get full benefit
- Some Concept Card descriptions were unclear

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Card Description Clarity (Example)

- Concept
  - “All of your programmers are considered to have one additional skill.”
  - “You may discard this card to allow your programmers to provide help at no penalty this turn.”
  - “You may treat normal bugs as simple bugs.”
  - “If you have at least 2 design, you may discard this card to ignore the effects of any one design problem just played on you.”

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Recommendations

- State # of players and team size recommendations in Instructions
- New Instructions flow better than old, but are missing key info
- Produce a B&W version of the game, 36 color images is unreasonable for a few hours play
- No need to suggest optimum Analysis and Design Cards, this takes away from the experience