Extreme Programming (XP)

Stephen Haunts

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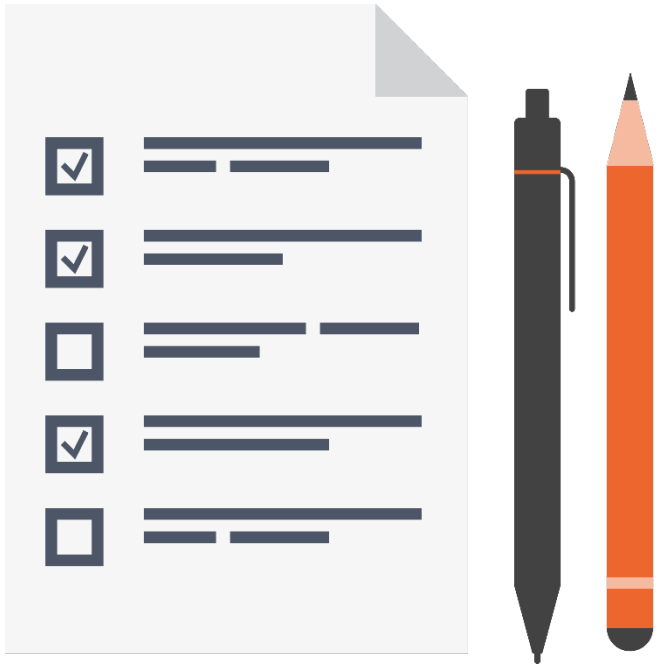
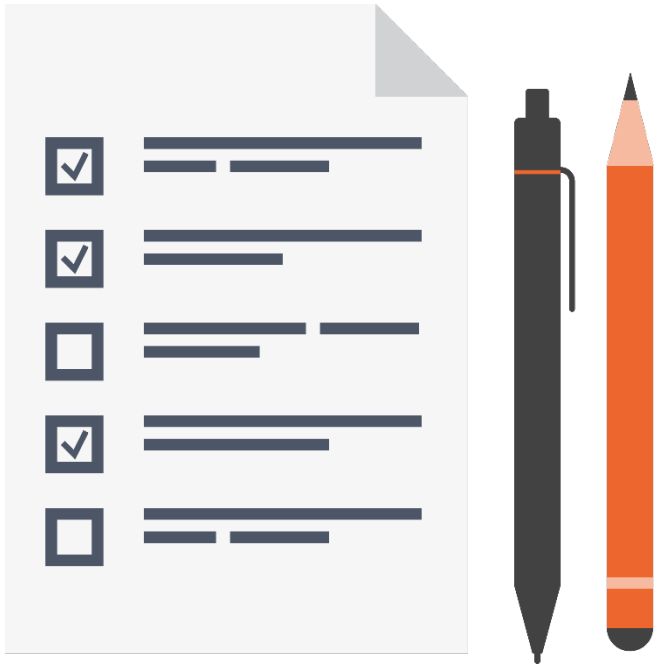
Overview



- History

Overview



- History
- Overview

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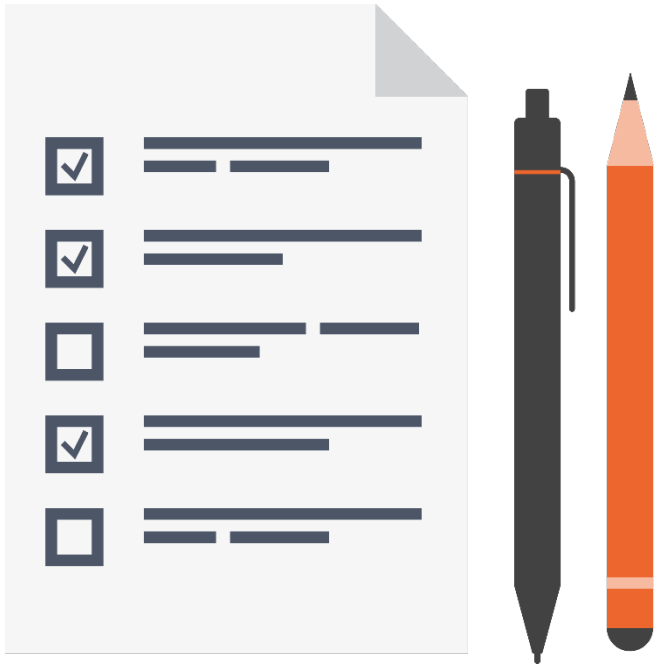
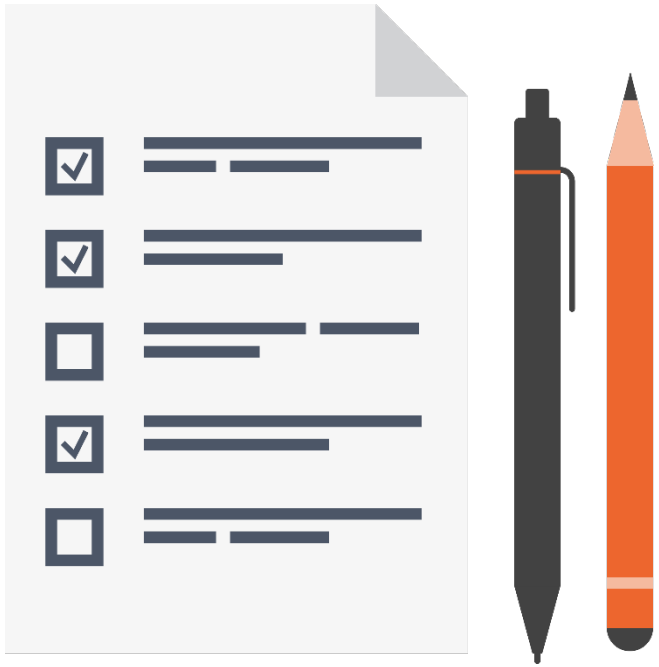


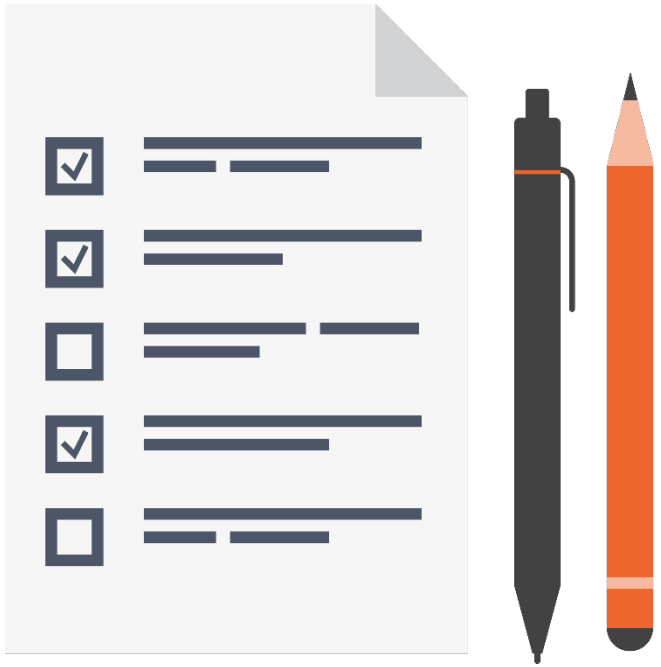
- History
- Overview
- Activities

Overview



- History
- Overview
- Activities
- Values

Overview



- History
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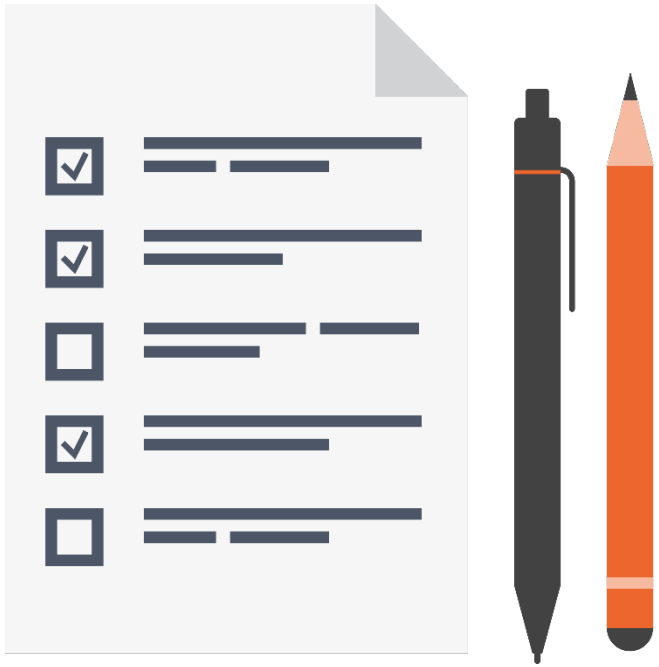
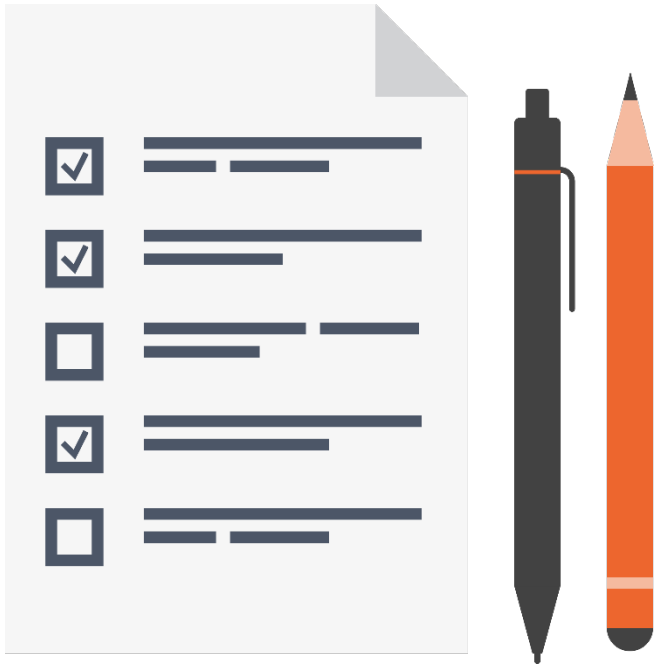
- Activities
- Values
- Principles

Overview



- History
- Overview
- Activities
- Values
- Principles
- Practices

Overview



- Rules
  - Planning
  - Managing
  - Design
  - Coding
  - Testing

Extreme Programming (XP)

Extreme programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements.

History of Extreme Programming

- Created by Kent Beck

History of Extreme Programming

- Created by Kent Beck
- C3 team focused on business value

History of Extreme Programming

- Created by Kent Beck
- C3 team focused on business value
- Working system delivered and refined with multiple smaller releases

Overview of Extreme Programming

- 4 x Activities

Overview of Extreme Programming

- 4 x Activities
- 5 x Values

Overview of Extreme Programming

- 4 x Activities
- 5 x Values
- 3 x Principles

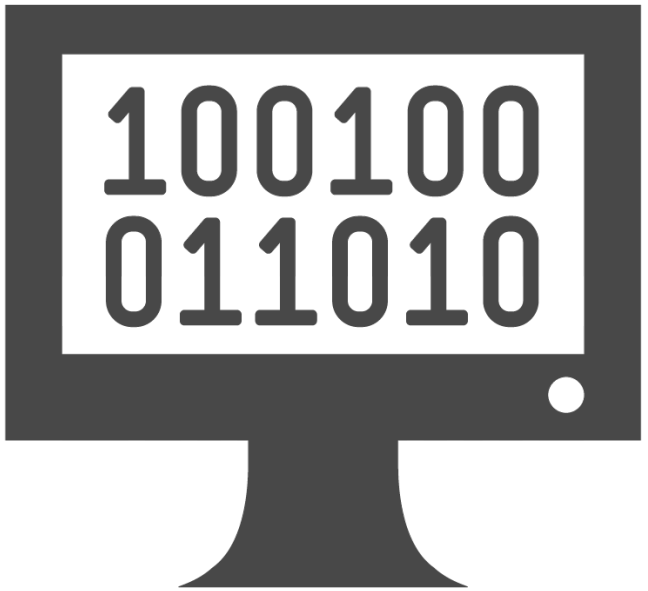
Overview of Extreme Programming

- 4 x Activities
- 5 x Values
- 3 x Principles
- 12 x Practices

Overview of Extreme Programming

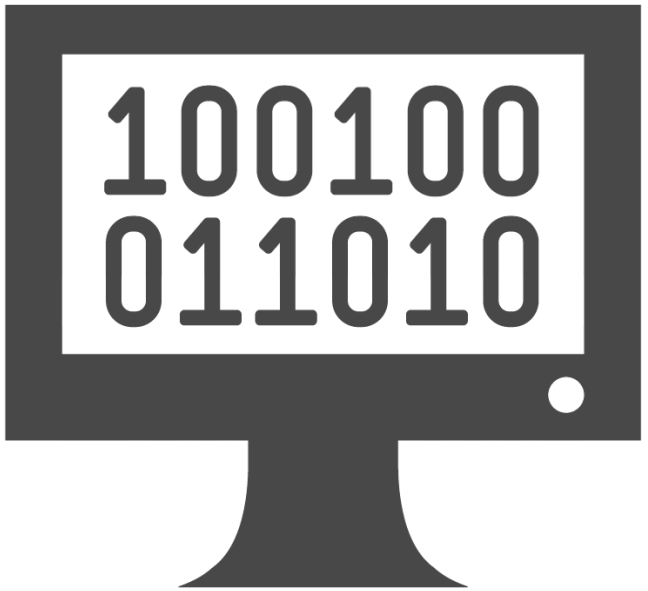
- 4 x Activities
- 5 x Values
- 3 x Principles
- 12 x Practices
- 29 x Rules

Extreme Programming Activities



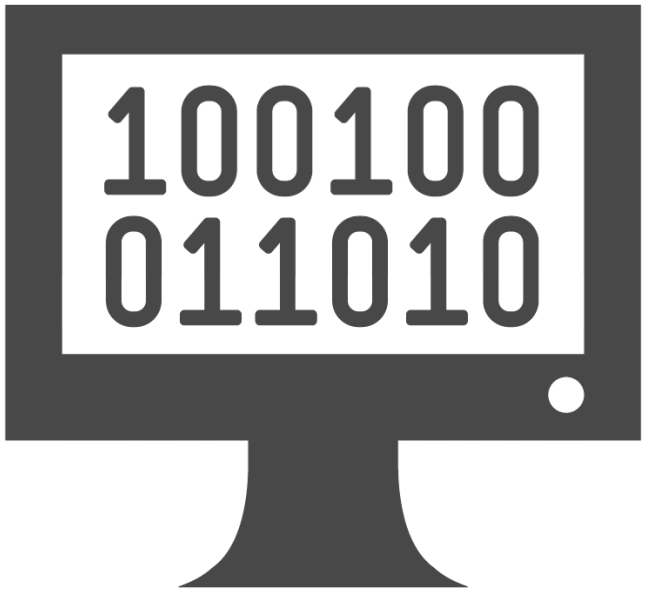
- Writing the application code

Extreme Programming Activities



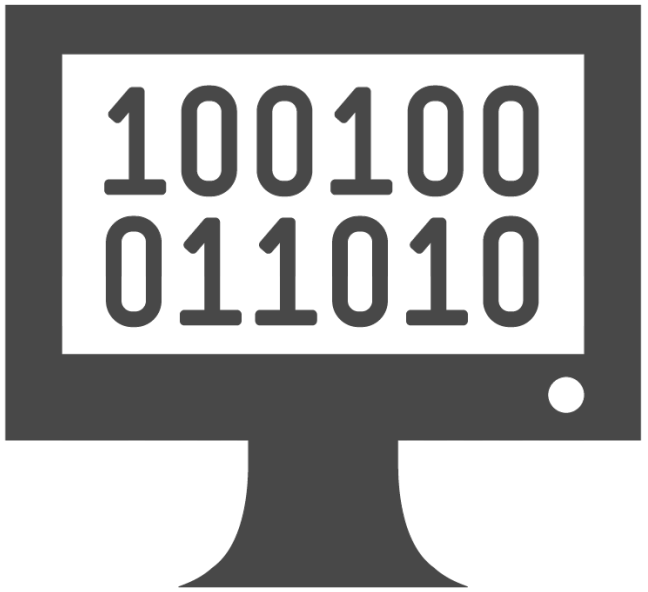
- Writing the application code
- Testing the system

Extreme Programming Activities



- Writing the application code
- Testing the system
- Listening to your customers and users

Extreme Programming Activities



- Writing the application code
- Testing the system
- Listening to your customers and users
- Designing your system to reduce coupling

Extreme Programming Values

- Communication is essential to any project

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- Build for simplicity

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- Learning from feedback

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- Having courage

Extreme Programming Values

- Communication is essential to any project
- Build for simplicity
- Learning from feedback
- Having courage
- Having respect for the team and project

Extreme Programming Principles

Feedback

Extreme Programming Principles

Feedback

Assuming Simplicity

Extreme Programming Principles

Feedback | Assuming Simplicity | Embracing Change

Extreme Programming Practices

- Fine-scale feedback

Extreme Programming Practices

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- Continuous process

Extreme Programming Practices

- Fine-scale feedback
- Continuous process
- Shared understanding

Extreme Programming Practices

- Fine-scale feedback
- Continuous process
- Shared understanding
- Programmer welfare

Extreme Programming Practices

- Fine-scale feedback
  - Pair programming

Extreme Programming Practices

- Fine-scale feedback
  - Pair programming
  - Planning game

Extreme Programming Practices

- Fine-scale feedback
  - Pair programming
  - Planning game
  - Test-driven development

Extreme Programming Practices

- Fine-scale feedback
  - Pair programming
  - Planning game
  - Test-driven development
  - Whole team

Extreme Programming Practices

- Continuous process
  - Continuous integration

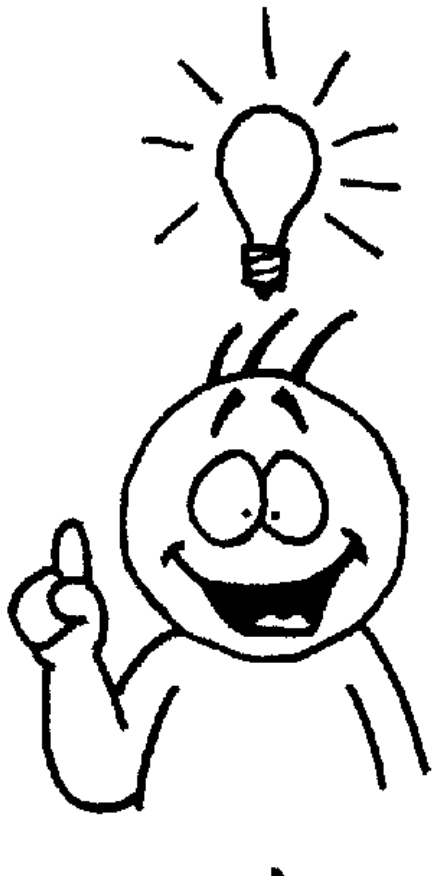
Extreme Programming Practices

- Continuous process
  - Continuous integration
  - Refactoring or design improvement

Extreme Programming Practices

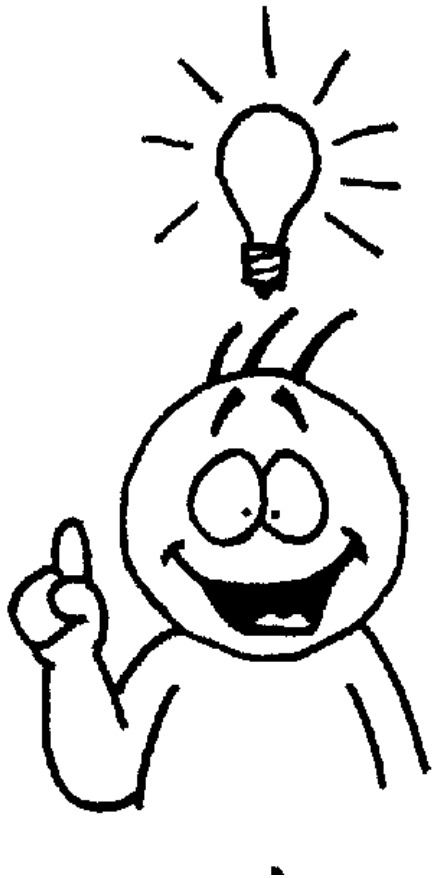
- Continuous process
  - Continuous integration
  - Refactoring or design improvement
  - Small releases

Extreme Programming Practices



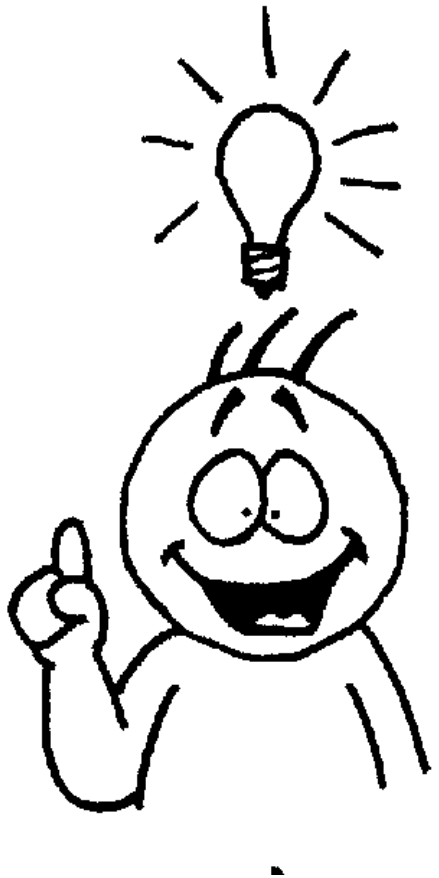
- Shared understanding
  - Coding standards

Extreme Programming Practices



- Shared understanding
  - Coding standards
  - Collective code ownership

Extreme Programming Practices



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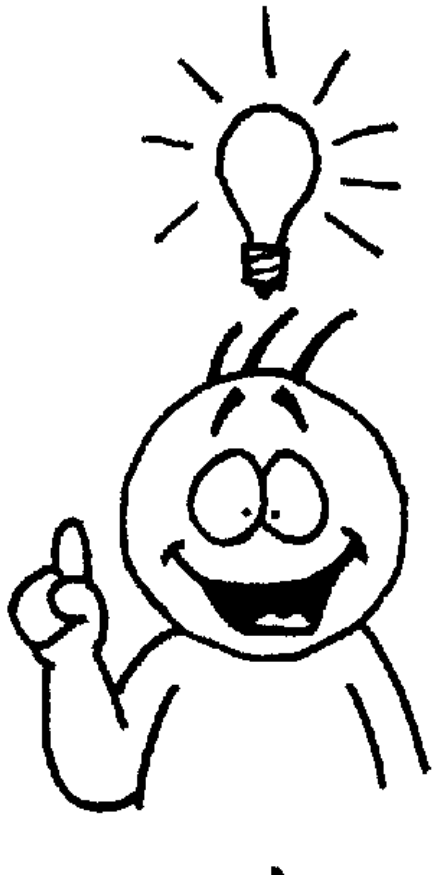
Extreme Programming Practices

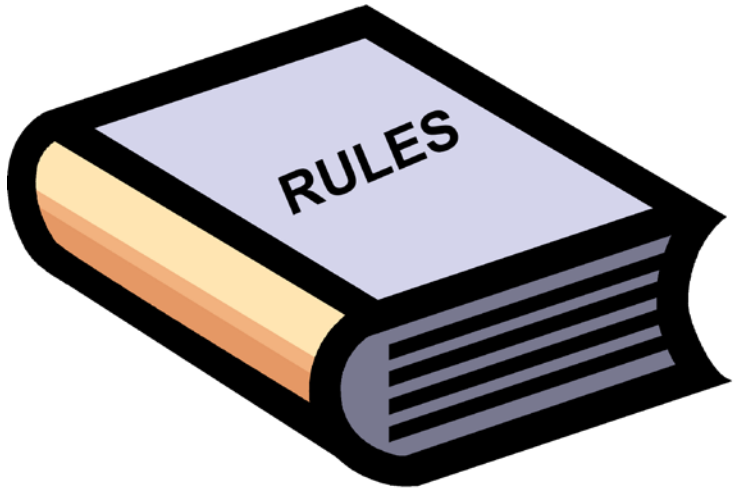


- Shared understanding
  - Coding standards
  - Collective code ownership
  - Simple design
  - System metaphor

Extreme Programming Practices

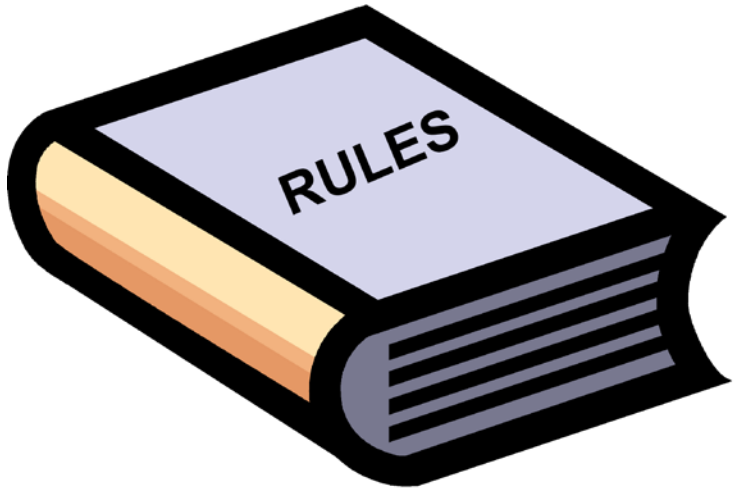
- Programmer welfare
  - Sustainable pace

Extreme Programming Rules



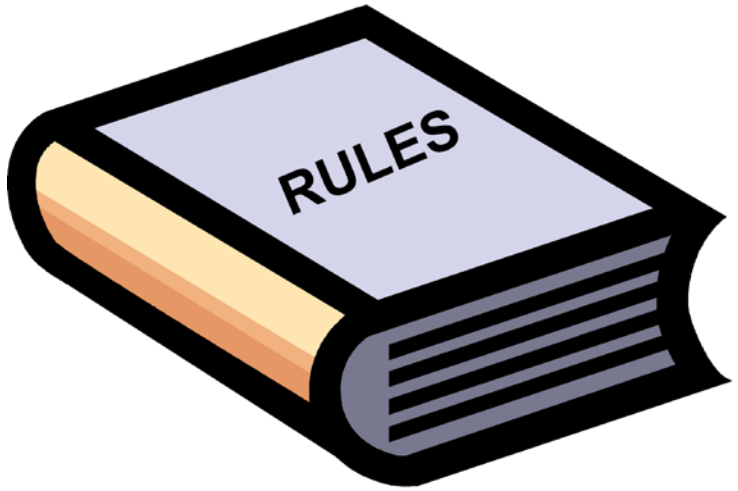
- Extreme programming has 29 rules split into 5 sections.
  - Planning

Extreme Programming Rules



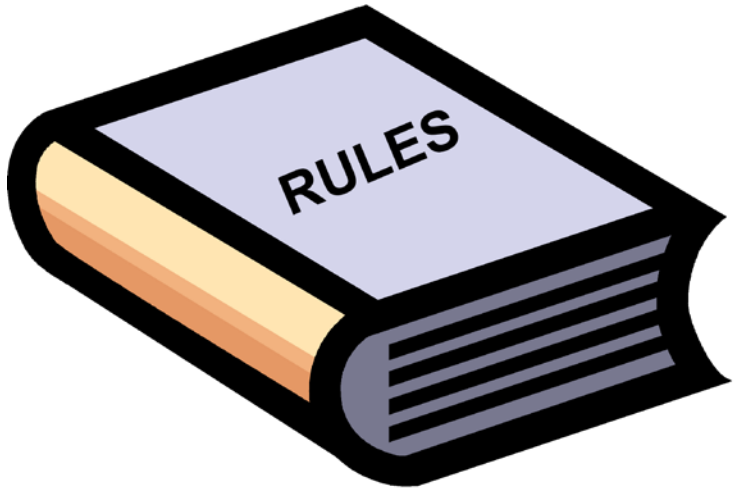
- Extreme programming has 29 rules split into 5 sections.
  - Planning
  - Managing

Extreme Programming Rules



- Extreme programming has 29 rules split into 5 sections.
  - Planning
  - Managing
  - Designing

Extreme Programming Rules



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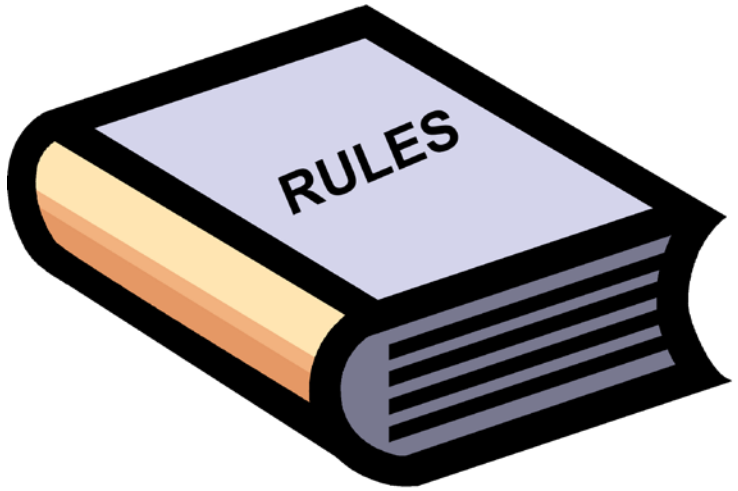
Extreme Programming Rules



- Extreme programming has 29 rules split into 5 sections.
  - Planning
  - Managing
  - Designing
  - Coding
  - Testing

Planning

- User stories are written

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- Release planning

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- Make frequent small releases

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- Project divided into iterations

Planning

- User stories are written
- Release planning
- Make frequent small releases
- Project divided into iterations
- Iteration planning starts each iteration

Managing

- Give the team an open work space

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- Set a sustainable pace

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- Set a sustainable pace
- A stand-up meeting starts each day

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- The project velocity is measured

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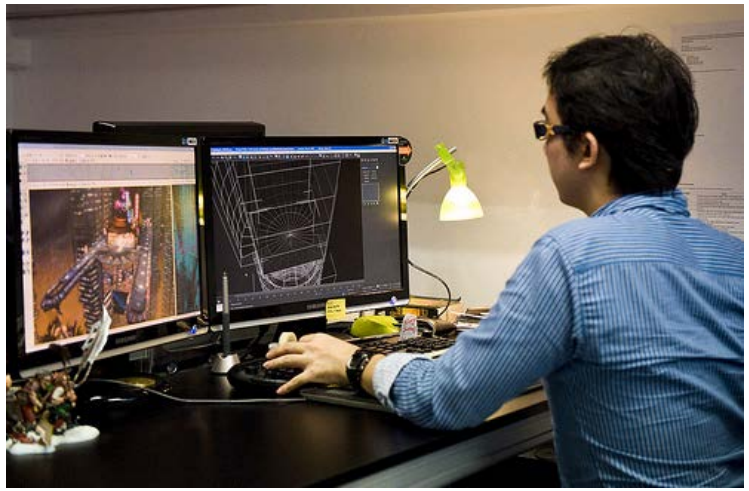
- Move people around

Managing

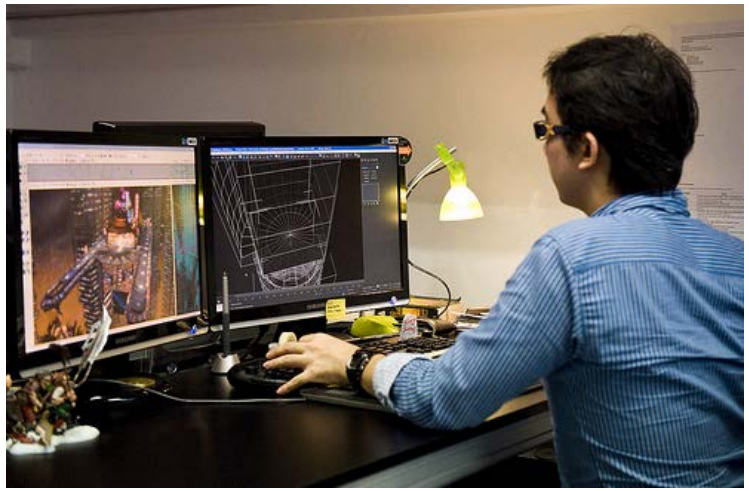
- Give the team an open work space
- Set a sustainable pace
- A stand-up meeting starts each day
- The project velocity is measured
- Move people around
- Fix XP when it breaks

Designing



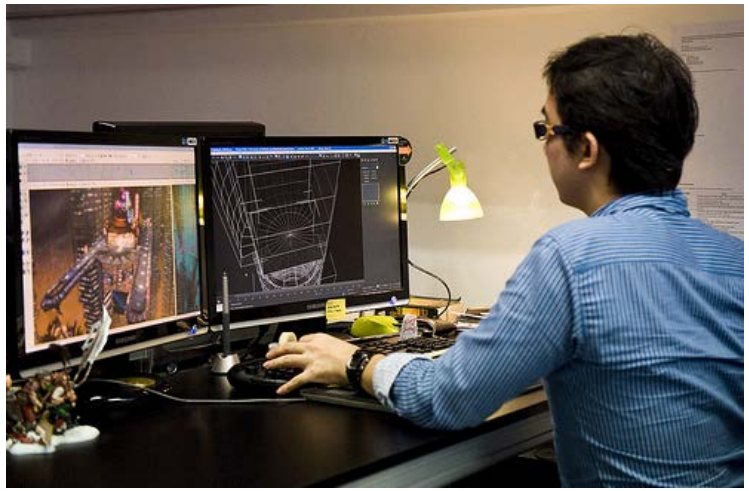
- Simplicity

Designing



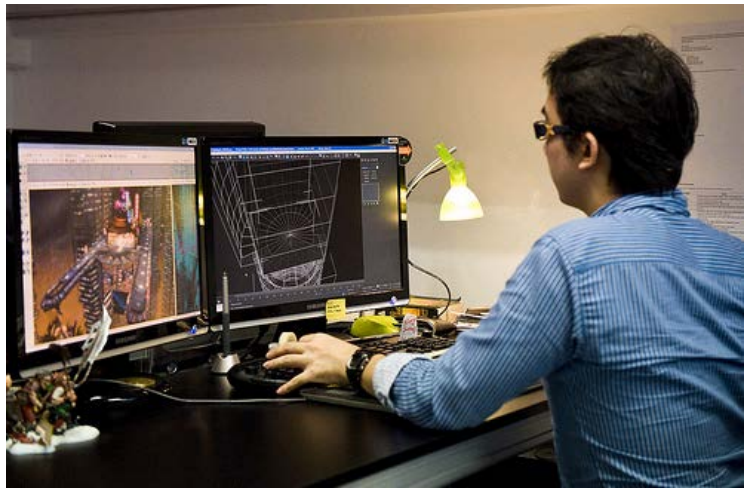
- Simplicity
- Choose a system metaphor

Designing



- Simplicity
- Choose a system metaphor
- Use CRC cards for design sessions

Designing



- Simplicity
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- Use CRC cards for design sessions
- Create spike solutions to reduce risk

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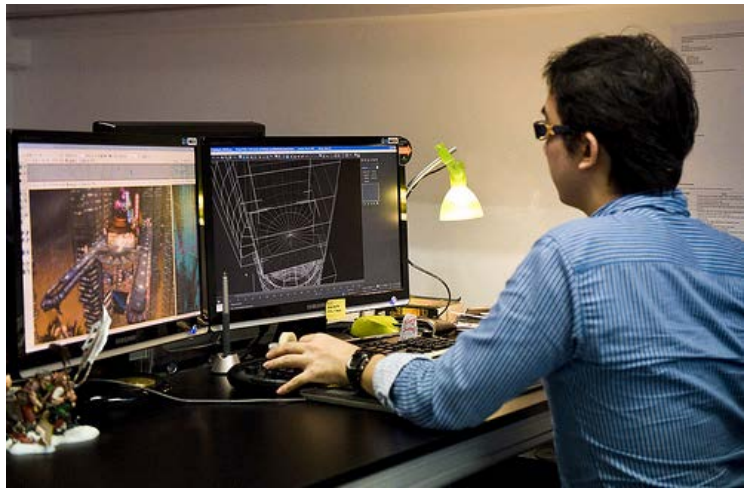
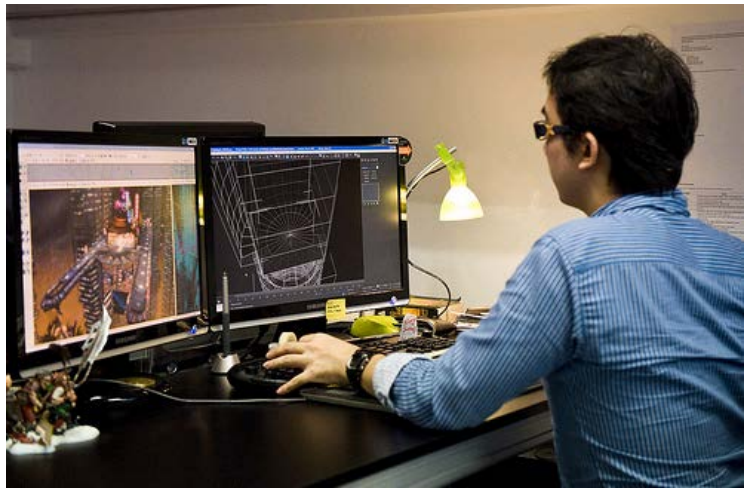


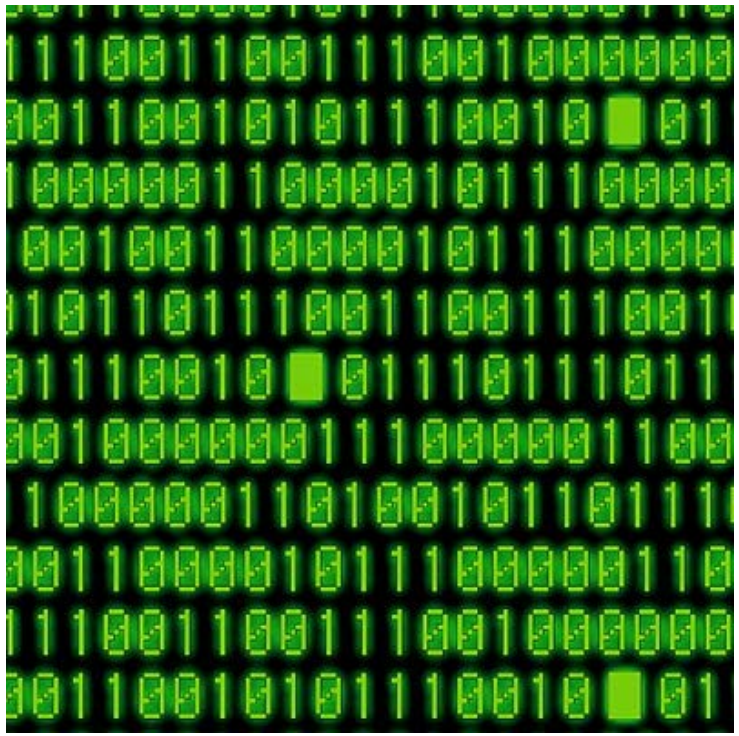
- Simplicity
- Choose a system metaphor
- Use CRC cards for design sessions
- Create spike solutions to reduce risk
- No functionality is added early

Designing



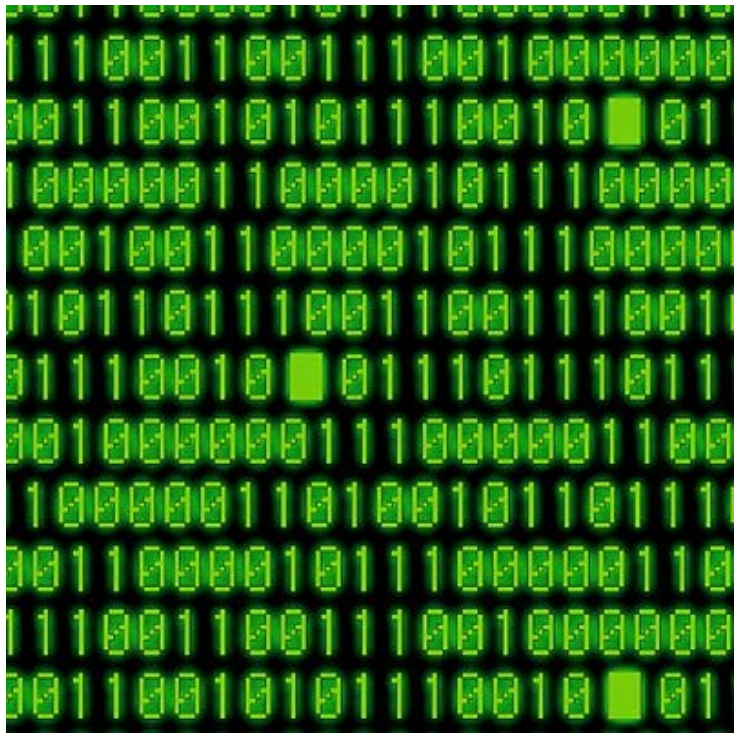
- Simplicity
- Choose a system metaphor
- Use CRC cards for design sessions
- Create spike solutions to reduce risk
- No functionality is added early
- Refactor whenever possible

Coding



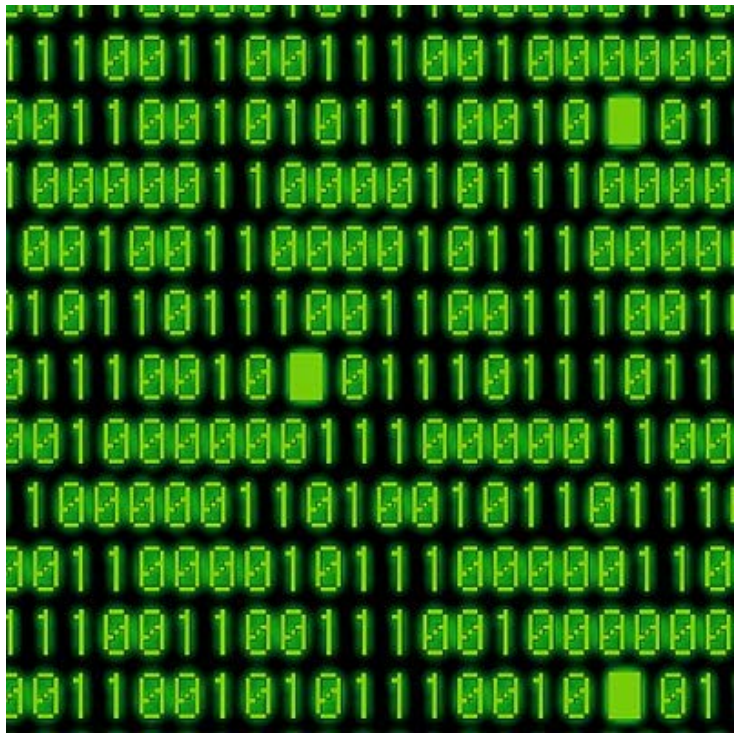
- Customer is always available

Coding



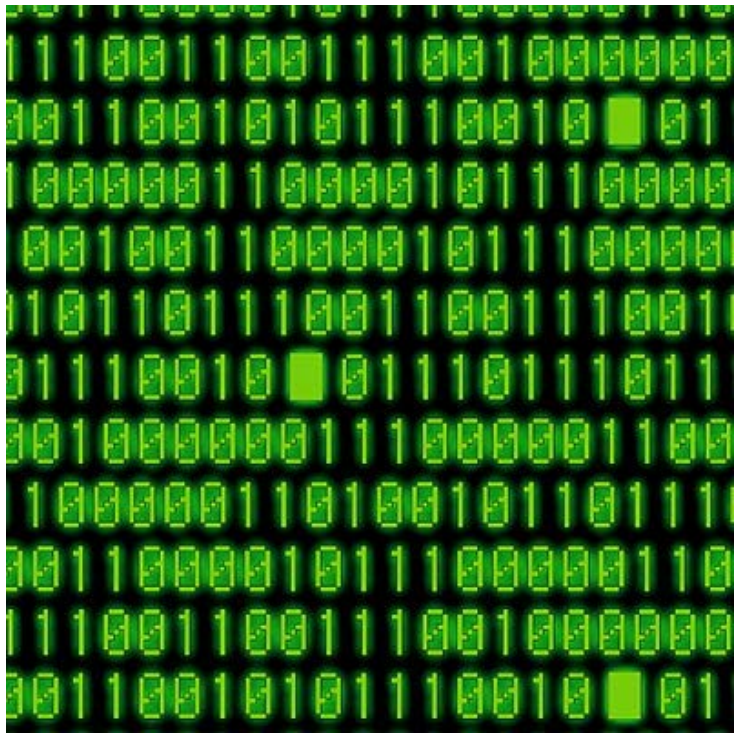
- Customer is always available
- Code written to agreed standards

Coding



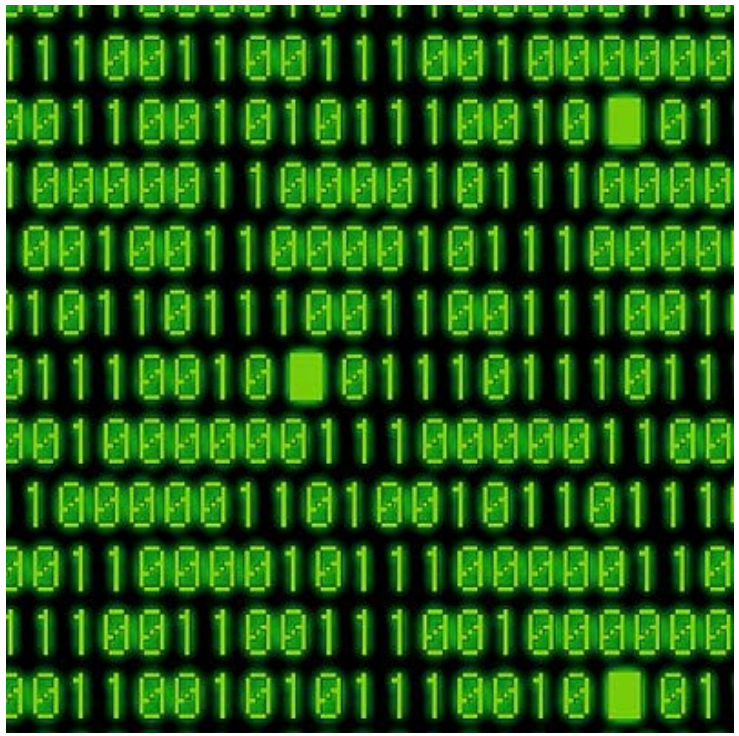
- Customer is always available
- Code written to agreed standards
- Code the unit test first

Coding



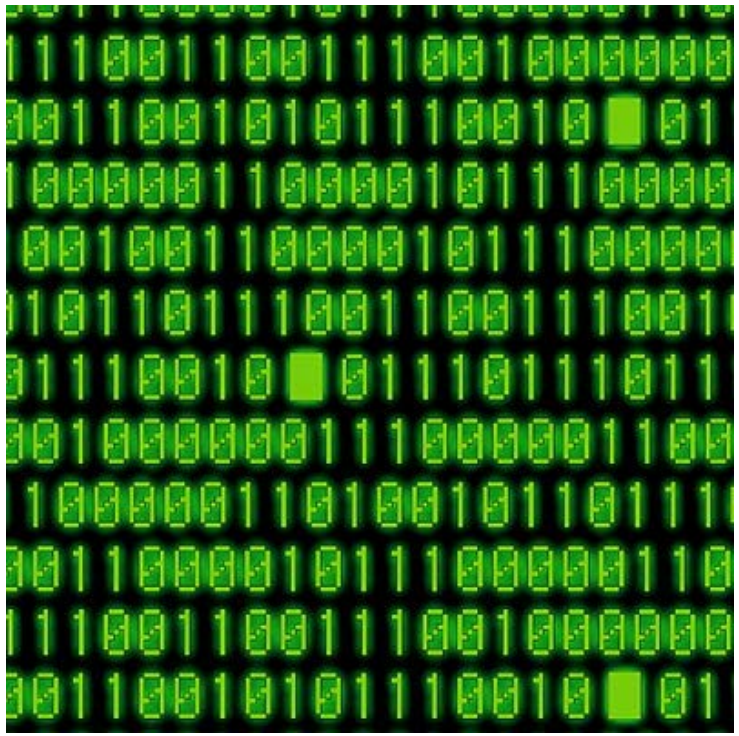
- Customer is always available
- Code written to agreed standards
- Code the unit test first
- Production code is pair programmed

Coding



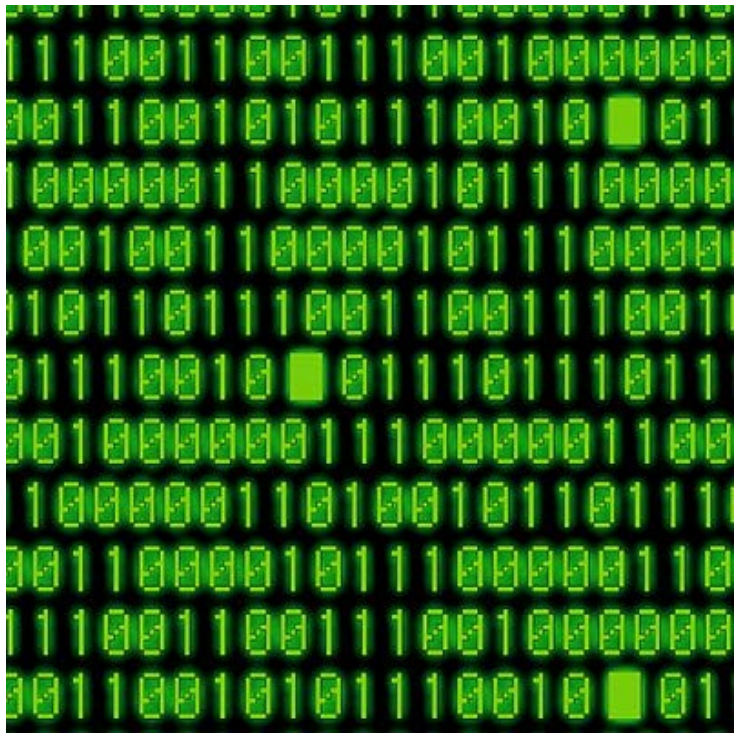
- Customer is always available
- Code written to agreed standards
- Code the unit test first
- Production code is pair programmed
- Only one pair integrates code at a time

Coding



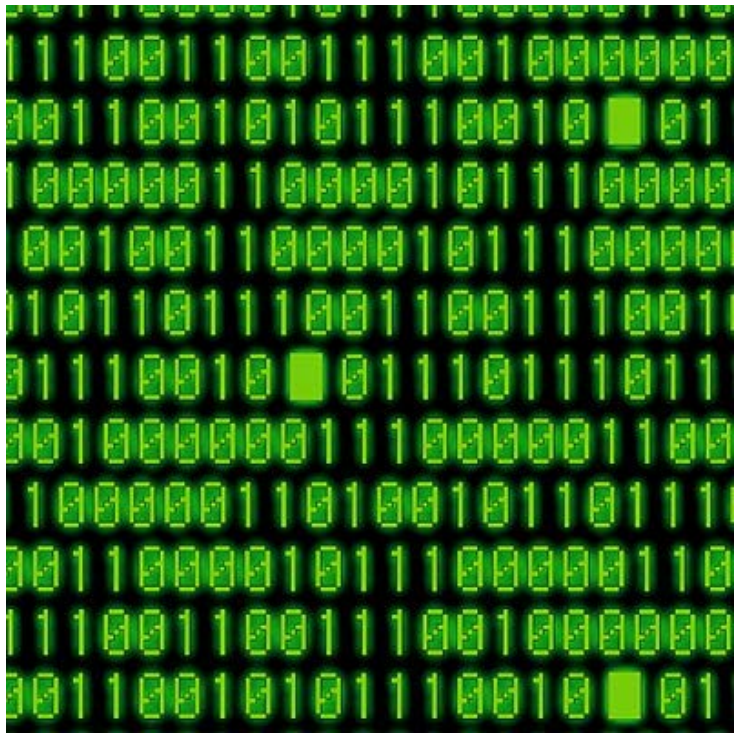
- Customer is always available
- Code written to agreed standards
- Code the unit test first
- Production code is pair programmed
- Only one pair integrates code at a time
- Integrate often

Coding



- Use a dedicated integration machine

Coding



- Use a dedicated integration machine
- Use collective ownership

Testing

- All code must have unit tests

Testing

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- All code must pass all unit tests

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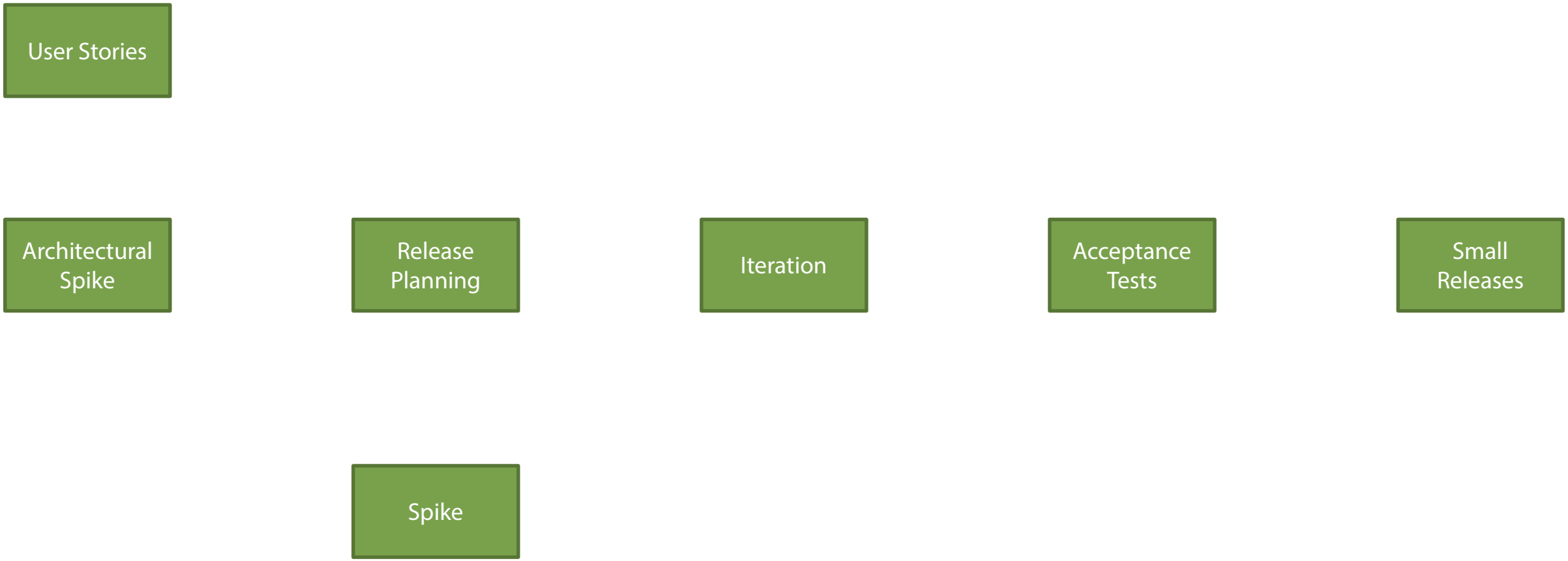
- When a bug is found tests are created

Testing

- All code must have unit tests
- All code must pass all unit tests
- When a bug is found tests are created
- Acceptance tests are run often and the score is published

Extreme Programming Diagram



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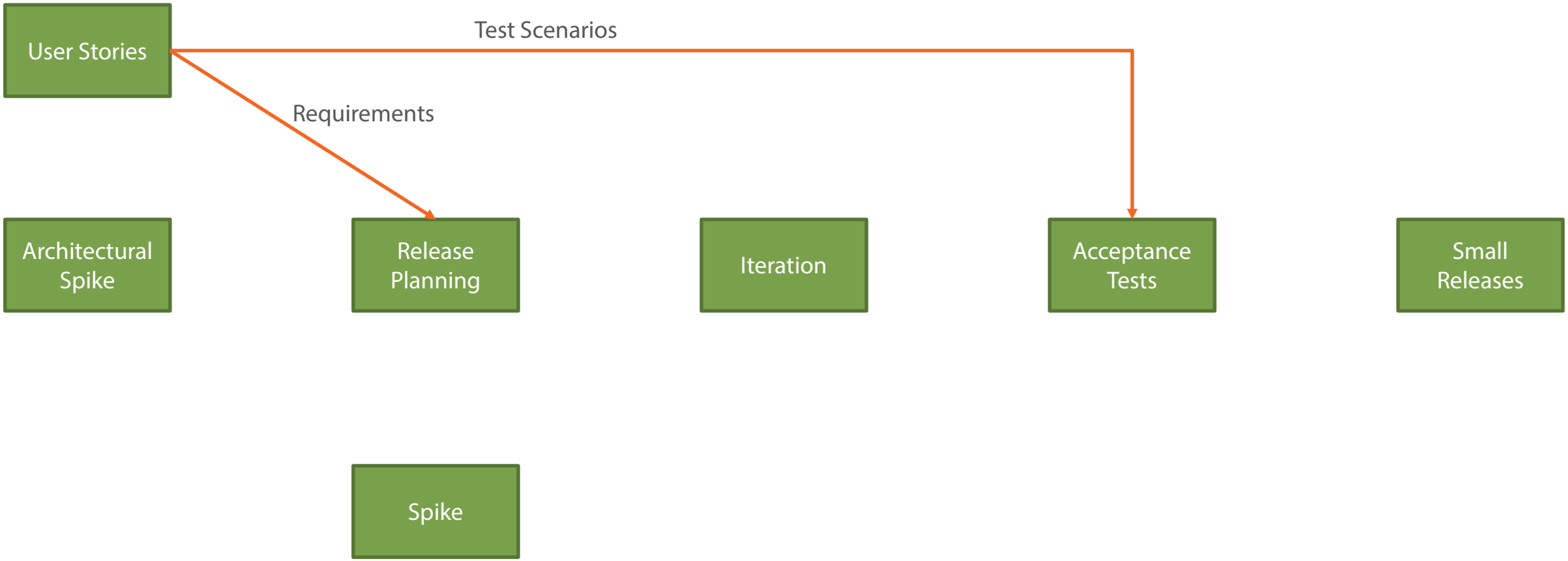

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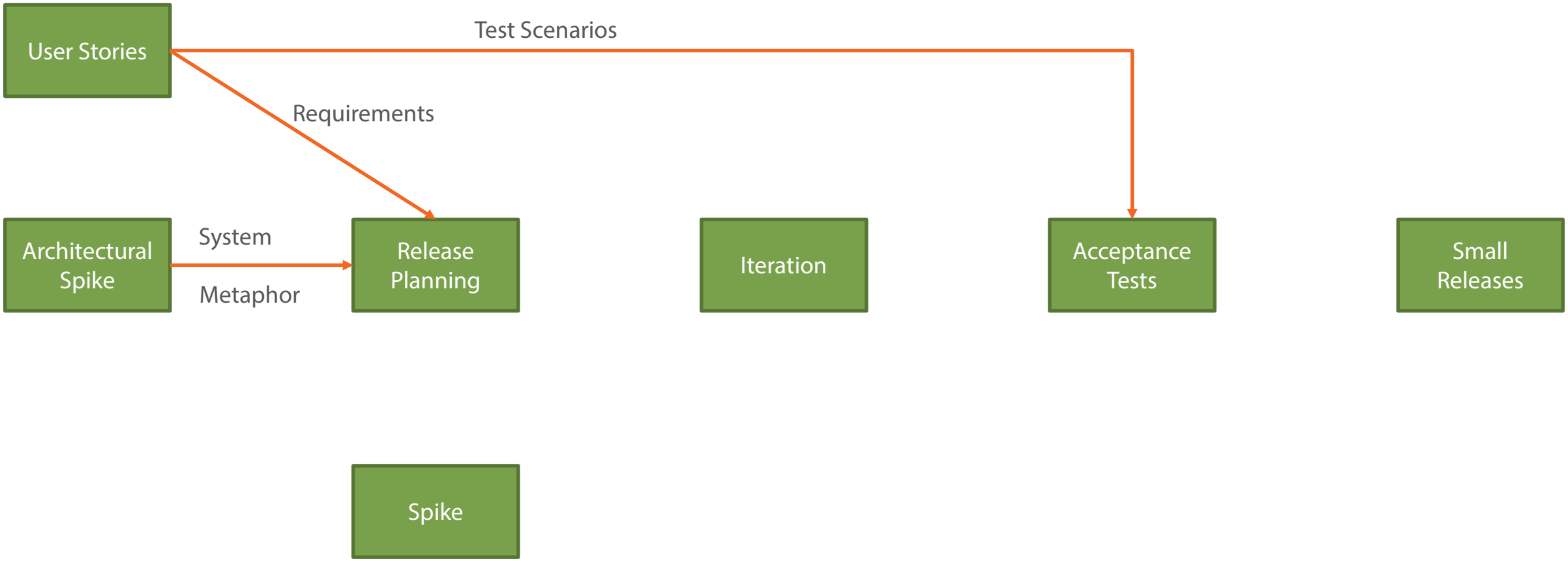

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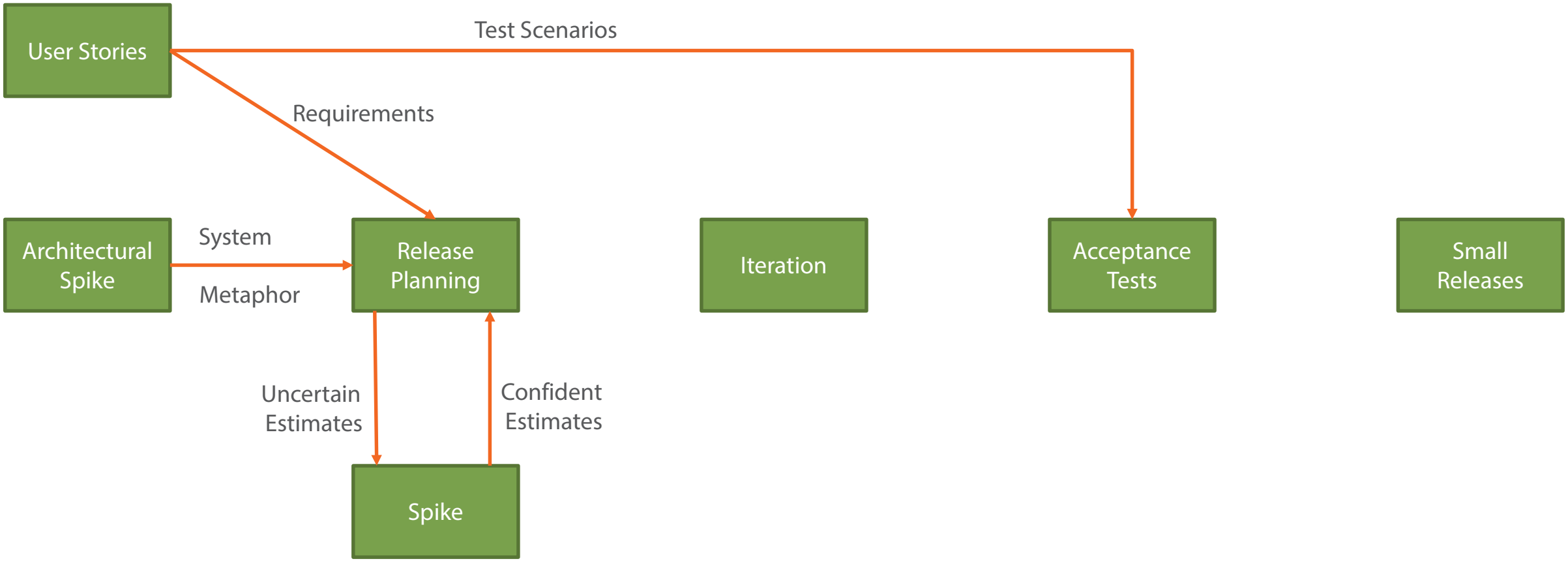

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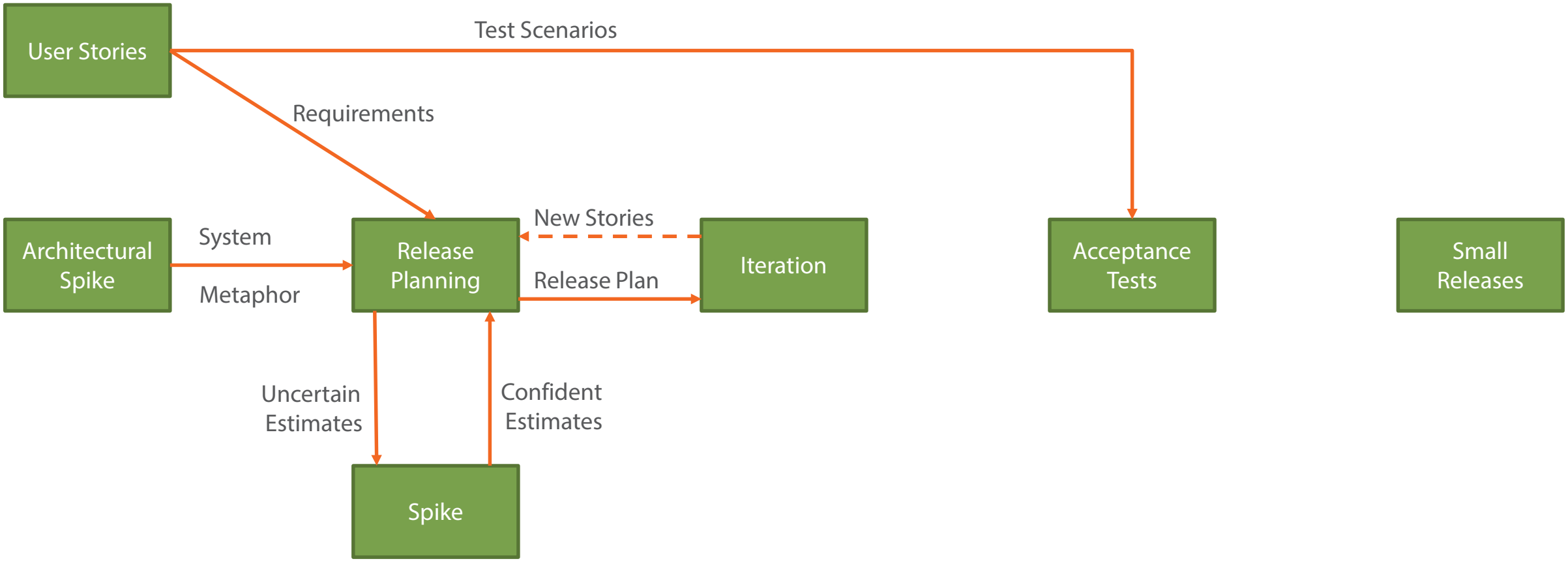

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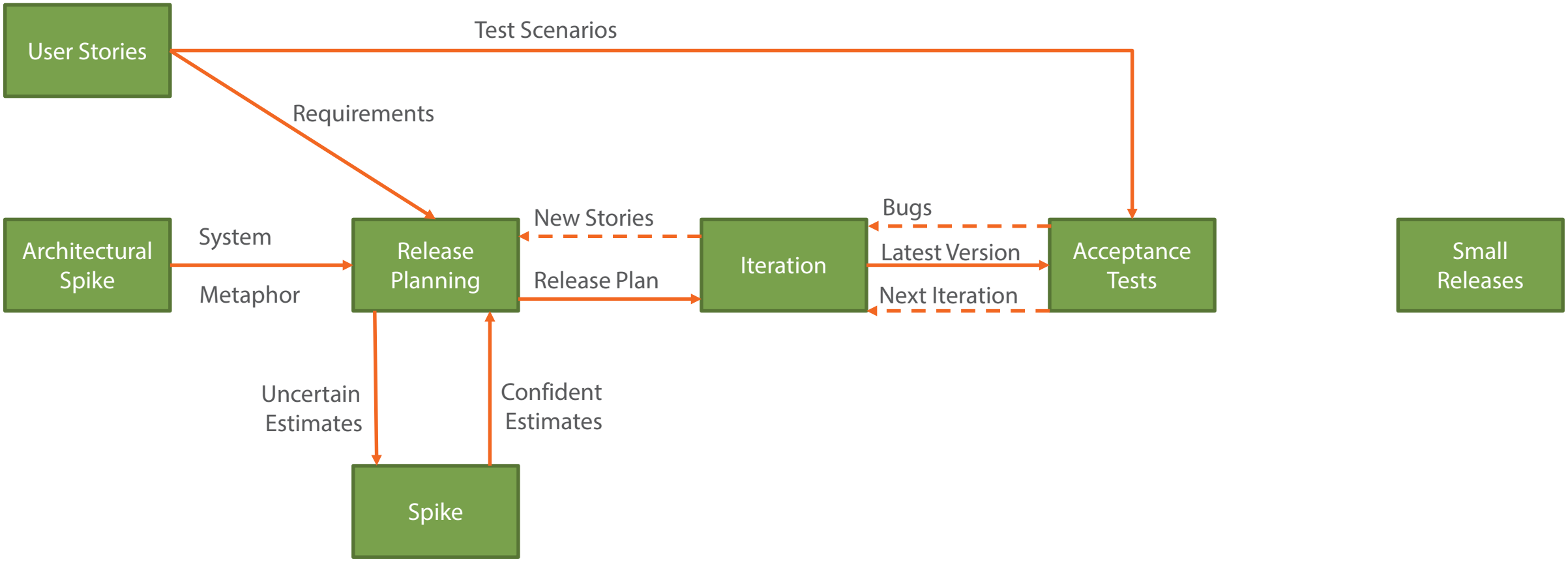

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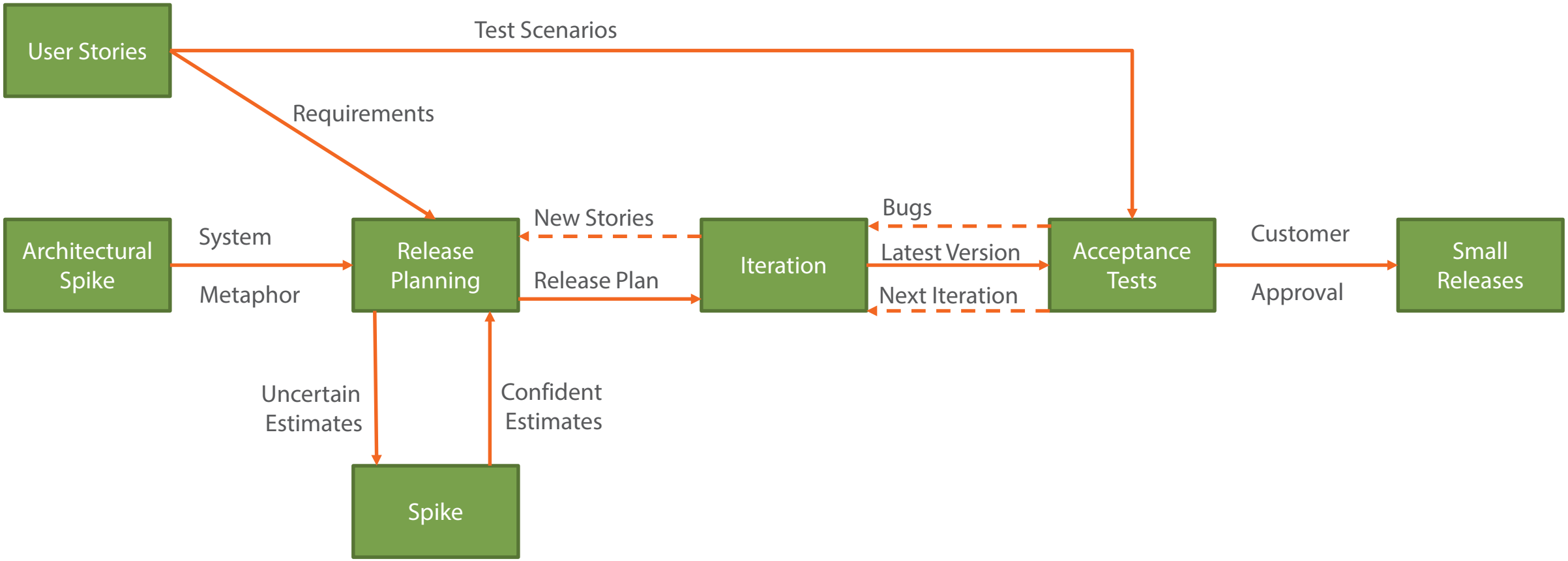
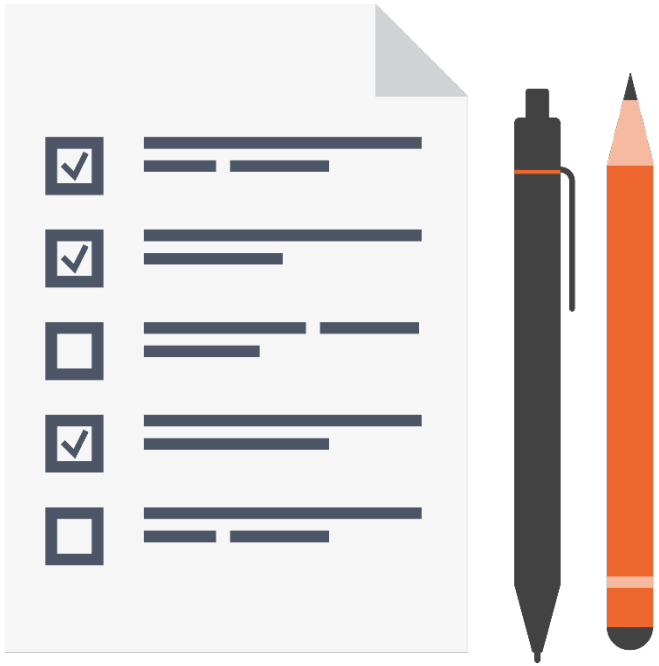


Summary



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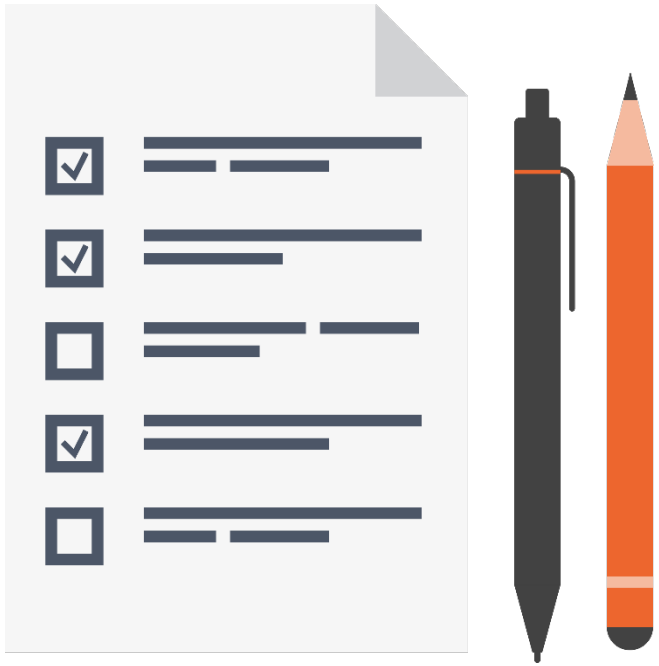

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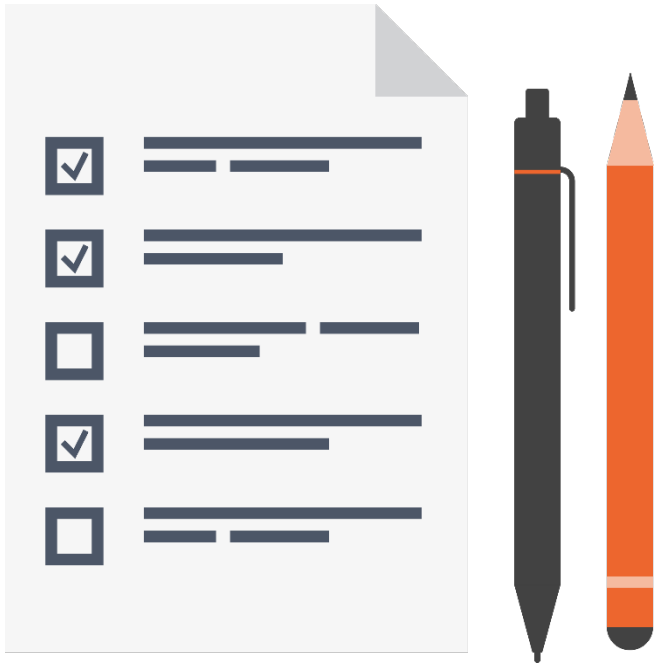

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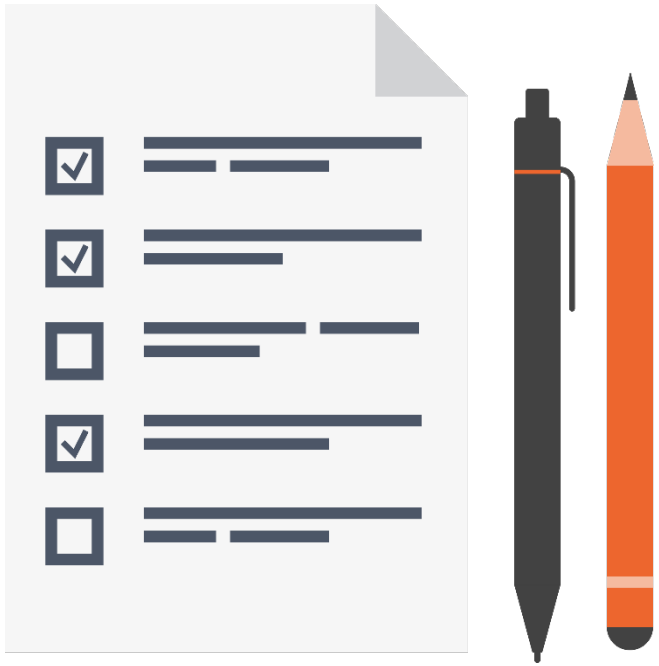

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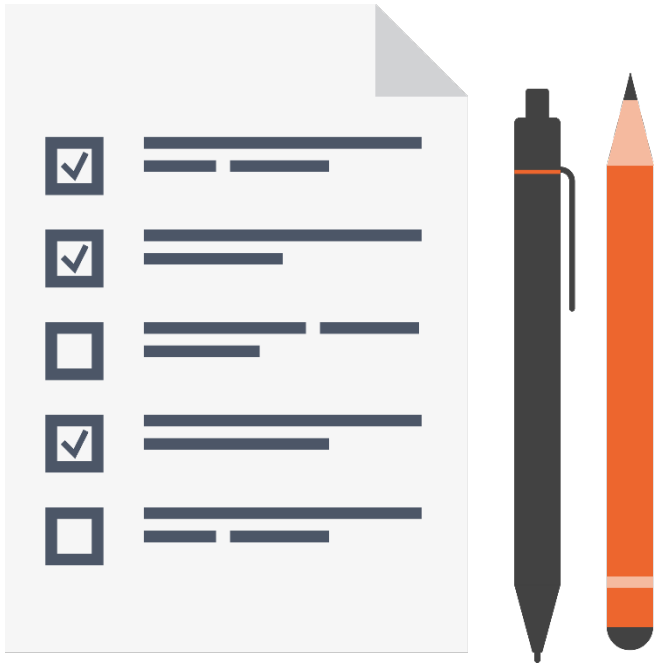
Summary



- Rules