XP in an Hour

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Introduction

- Extreme Programming is a high discipline and very iterative development method
- XP avoids early commitment and early infrastructure development to achieve:
  - Low cost of change and
  - Easy retargeting of a project

Why Projects Fail

- Trying to over-control the dimensions
  - Features
  - Cost
  - Schedule
  - Quality
- In reality you can only control 3 of these

Values in XP

- Courage
- Communication
- Simplicity
- Feedback
- Respect

Key Ideas

- Practices are synergistic & support each other
- Distance is expensive
- Schedules never slip
- Balance between rights & responsibilities
- Set of practices is humane

What It Gives You

- Rights AND Responsibilities
- Humane work environment
- Skills that are valuable
- Pride of workmanship

What It Requires

- Discipline
- Commitment
- Honesty
- Courage

What is missing?

- Upfront requirements gathering and sign-of -- hence no need to commit early
- Upfront design documents -- hence easy to retarget
- Early costs amortized over life of project
- Intimidation: schedule, cost, or value

Roles: Customer

- Write short “story cards” describing features
- Answer questions throughout to add specificity to the stories
- Write acceptance tests to verify stories
- Make all business decisions: function, priority, feature value, acceptance

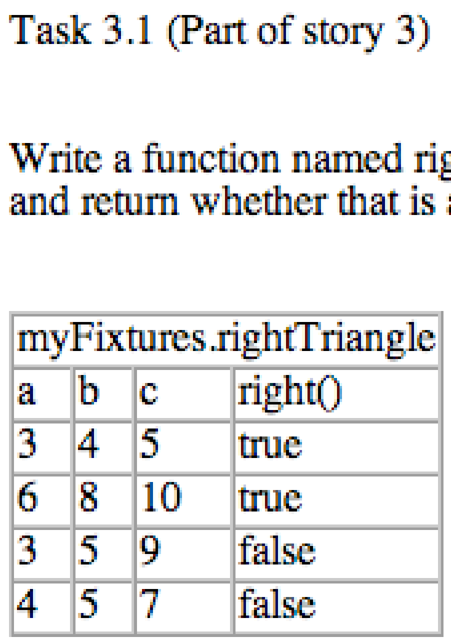
Sample Story

Story 3

2

- The system will correctly classify triangles: right triangles, equilateral, etc.

Sample Acceptance Test



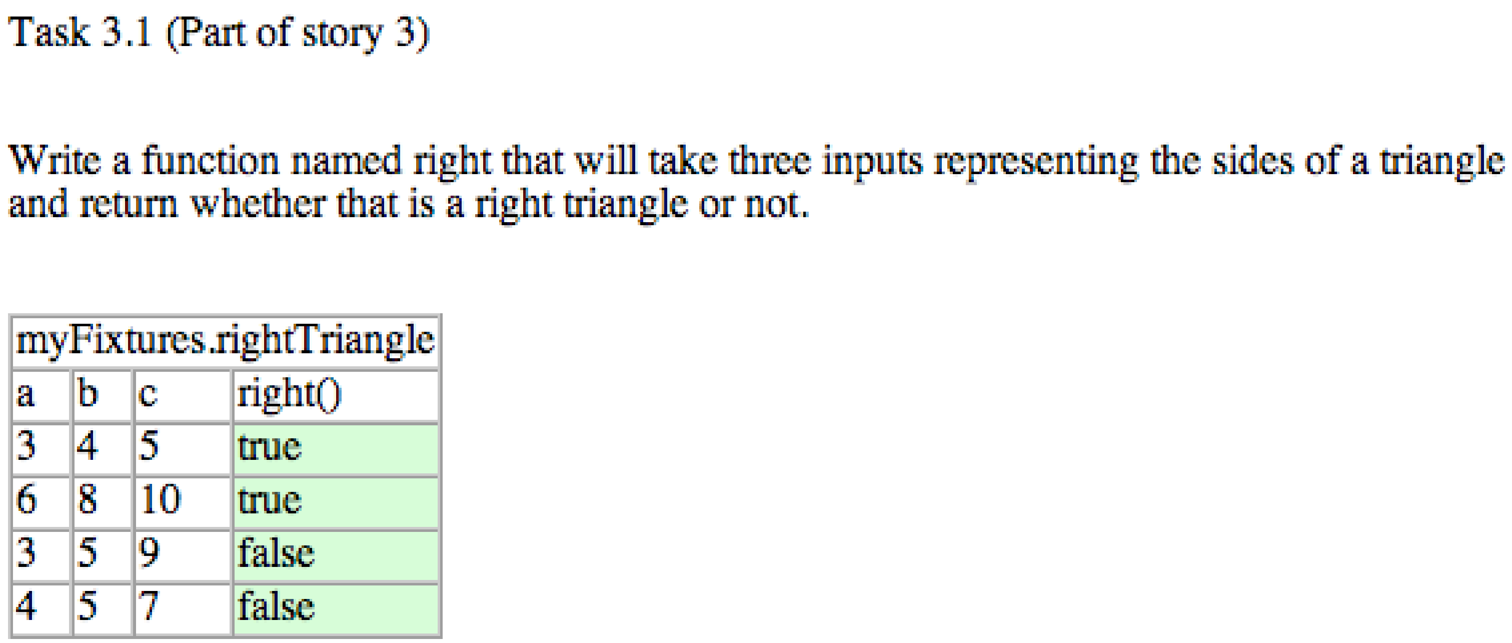
Task 3.1 (Part of story 3)

Write a function named right that will take three inputs representing the sides of a triangle and return whether that is a right triangle or not.

myFixtures.rightTriangle			
a	b	c	right()
3	4	5	true
6	8	10	true
3	5	9	false
4	5	7	false

These are created in Excel or HTML, but are executable

After Execution



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Failed tests show up in red.

Roles: Developer

- Estimate stories
- Break stories into tasks
- Build tasks -- with customer feedback
- Write unit tests (all tests always succeed)
- Do continuous integration

Roles: Other

- Tracker (keep everyone aware of progress)
- Coach (conscience of the team)
- Big-Boss (management and shelter)
- Tester (write/run unit tests...)
- Consultant (extra knowledge as needed)

Contract

- For best effort and full communication, NOT for deliverables on a given date
- Customer may terminate project at any time
- Short release cycles (4-6 weeks) ensure constant delivery of customer value
- Schedule never slips, though features may be dropped from an iteration

Controlling Cost

- Build the high value features first -- controlled by customer
- Make expensive decisions as late as possible
- When the cost and value curves cross - quit!

Staying Happy

- Customer steers like a bicycle
- If something is not “right” then write a new story and prioritize it like any other
- Developers build only the stories in the current iteration and always do the simplest thing that could possibly work
- Stories are fine-grained to enable short iterations

Practices

- XP has a dozen or so key practices. The most important overall are
  - Onsite Customer
  - Whole Team

Practices-- Customer

- The most important practices for the customer are:
    - Onsite customer - available customer
    - Planning Game
    - Customer Written Acceptance Tests

Onsite Customer

- Customer is needed on site because
  - Developers should not make business decisions but
    - no upfront requirements
    - no upfront design documents
- A story is a contract to talk in the future

Whole Team

- In addition to the customer, the “whole team” includes all personnel with key skills needed to develop the system
  - Software developers
  - Designers
  - Information architects
  - Others as appropriate

Whole Team

- The customers write stories and prioritize them
- The other members task out the stories and estimate them
- Members with appropriate skills estimate and perform tasks
- Tasks support the stories

Planning Game 1

- This is a periodic task (every 2 weeks) in which the customer chooses the high value features for the next release or iteration
- Based on cost estimates from the developers
- Estimates are not a contract, so re-steering is required throughout the iteration.

Planning Game 2

- Customer writes stories
- Developers estimate stories
- Customer prioritizes stories
- Developers give the “velocity”
- Customer chooses stories up to velocity

Planning Game 3

- Developers/Customer discuss stories
- Developers divide stories up into tasks
- Individual developer with appropriate skills chooses a task and estimates it
- If sum of task times > velocity then back to planning, otherwise build & test

Build Phase 1

- Tracker keeps track of everyone's progress
- If all tasks/stories can't be completed on time some are dropped. Customer chooses
- At end of each task, all tests pass. Customer verifies
- If the customer still isn't happy, write a new story

Build Phase 2

- If developers finish early, go back to customer for more work. Customer chooses
- Developers give a new “mini velocity”
- Next iteration velocity is adjusted based on what we complete this iteration

Practices--Developer

- Standup Meeting
- Sustainable Pace
- Coding Standard
- Test Driven Development
- Collective Code Ownership
- Small Releases

Practices--Developer

- Pair Programming
- Constant Refactoring
- Continuous Integration
- Simple Design
- Metaphor
- Retrospectives

New Practices

- The above practices may not all be appropriate as stated for an integrated team
- Practices are built on principles to give benefits
- Need to discover and implement appropriate practices for THIS team to achieve desired goals