QA

- Quality Assurance
  - Also known as
    - QE (Quality Engineering)
    - SQA (Software QA)
    - Testing
    - Over The Wall
      - (more on this later)
What is Quality?

- Ideas?

What is Quality

- It’s NOT:
  - An abstract measure of goodness
  - An indication of zero bugs

- It IS:
  - Meeting expectations
  - A measure of state
  - A risk management tool
Timex vs Rolex

- **Timex:**
  - Costs $20
  - Made of plastic
  - Tells time accurately

- **Rolex:**
  - Costs $2000
  - Made of gold
  - Tells time accurately

- **Did customers get what they expected?**

Quality is related to Value

- A “Good deal”
  - exceeds quality expectations for the price
    - usability
    - works as expected
    - doesn’t crash

- A ripoff
  - paid too much
How to test games

- Mini-outline
  - Capture user requirements
  - Set quality goals
  - Measure a baseline
  - Test against the baseline
  - Verify fixes

Capture user requirements

- Expectations
  - Although many are implied:
    - Fun
    - Functional
    - Matches genre expectations
  - Get as much detail as you have time for
Set quality goals

- Based on concrete measurements
  - You need quantitative results
  - Example measurements:
    - Bug priority
    - Bug severity
  - Goals:
    - Zero known crash bugs
    - <10 critical bugs
    - etc

Measure baseline

- If possible
  - New titles may not be in shape to get baseline quality measurements
- Create test plans against requirements
- Methodical repeatability is key
- But human interaction too
  - You can’t automate all game testing
  - Have to test for:
    - Fun
    - Unanticipated bugs
Start measuring (testing)

- When a feature is delivered
  - Execute plans for that feature
  - Start baseline testing if you didn’t do it earlier

Verification

- When developers claim a bug is fixed
- Verify it
- Shouldn’t be adversarial
- Avoid it with:
  - Good product requirements
  - Clear milestones
  - Good quality criteria defined FIRST
The Wall

- Devs sometimes want to “throw it over the wall”
  - They think of QA as a separate universe
- THIS IS VERY BAD
  - Fight the urge
- Relationship should be cooperative

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Interesting measurements

- Total number of bugs
- Bug find rate
- Bug fix rate
  - When fix > find, project has turned corner
- Test case execution percentage
- Use for predictions of:
  - Stability
  - Release dates
Skills needed for QA

- Technical knowledge
- Good communications skills
- Curiosity and persistence -- puzzle skills
- Strong personality
- Attention to detail
- Tolerance for repetition

Special considerations

- MMO environments
- Open source