Game Theory: The Test Engineering Path to Success

Presented by:

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William Bell

William Bell has ten years experience working in test engineering for the Department of Defense where I worked in a double helix customer interaction model that allowed agile like development in a waterfall industry. He moved from being a test engineer to building and leading teams of test engineers within the DoD with a very high success rate of DCMA acceptance of test cases and modeling. For the last 3 plus years William has been managing a team of test engineers in the risk averse and heavily governed health industry, but building software using agile methodology. William believes the marriage of agile and risk averse customers is extremely challenging, yet it can be rewarding if done well.
GAME THEORY IMPACTS
Techniques and tools for teaching our brains to be better test engineers.

INTRODUCTION
William Bell
Vocera Communications
Manager of Integration Test
History in DoD
Software Development/Testing since 1981
WHAT IS A TEST ENGINEER

People vs Artificial Intelligence
- Both provide different benefits

Perspectives vs Button Clicking
- Who are the customers and how do we test for all of them

Automation vs Ad-Hoc
- Tedium and regress removed but critical thinking required

FILLING IN THE EDUCATIONAL GAPS

- As a manager, how do I teach the missing pieces?
  - Very little curriculum for Test Engineering
  - Online classes are not engaging
- SDETs – how do we get more from our engineers
  - Creative and Critical thinking skills
  - Educate through activities they enjoy
- Communication is the key to success
  - Agile: Communication over Documentation
  - How do we get our teams talking effectively
MARK ROBER – SUPER MARIO EFFECT

The Super Mario Effect - Tricking Your Brain into Learning More | Mark Rober | TEDxPenn
https://www.youtube.com/watch?v=9vJRopau0g0

BETTER LEARNING THROUGH ENTERTAINMENT

https://www.youtube.com/watch?v=9vJRopau0g0  Mark Rober
BOARD GAMES?

- Monopoly
- Life
- Trouble
- Sorry

WHY NOT MONOPOLY

- Invented by Elizabeth "Lizzie" Magie
  Intended to create division among players
  Purpose of the game was to teach the woes of capitalism

- From the era of "Roll and Move" board games
  Lack any difficult decisions
  Based almost solely on the decisions of random chance
  A game of probability and statistics
CONSEQUENCE FREE LEARNING

- Board Games
  - Eurogames
    - Indirect Player Interaction
    - Economic themes
    - Engine building
    - Everyone stays in until the end
    - Very little random/luck
  - Amerigames
    - Direct player interaction
    - Military themes
    - Often contain luck mechanisms
    - Player elimination

GAME TYPES

- Engine builders
  - Workflows – how we use our software to enhance our daily lives

- Worker Placement
  - Risk management – best reward for the investment

- Resource Management
  - It’s in the name – What tests should I run to cover the most volume

- Deck Building
  - Synergy – how do different features of our software work together and what may be missing

- Area Control
  - SME – make sure you know who to reach out to when you have questions
GAME TYPES CONT.

Asymmetric – Different rules for every player
- Who is my customer – Every user of the software sees things from a new perspective
- Open your eyes to a new angle on our software by playing from a different set of rules

Co-Operative
- Communication is the key to success – it takes the whole team to make it work
- Talking to developers and product owners helps us gain perspective
- Communication over documentation, it’s agile

BONUS EDUCATION
- Team and Morale building
- Games are fun and engaging
- They teach us to think and learn
- Good games are tools that get our teams working together
- A social setting that gets your Test Engineers and Developers working together as friends will pay dividends long term in your office.