Android UI Automation with Espresso

Jeriel Ng (@jerielng)
Mobile Software Engineer

Types of Testing

- Unit Testing
- Manual UI Testing
- **Automated UI Testing**

We received your delivery on time, but we couldn't find the tests
Tests ?
What tests?
You know, the unit tests. The ones for testing the application layer, Quality Assurance and all
Ah, yes, the unit tests...
There aren't any unit tests
No tests ? But what about the guidelines...
How do you check that everything works correctly?
Um...
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Why should we automate UI testing?

Time-efficient

Accurate & Consistent

Espresso: An Overview

- Android’s native UI testing framework
- Simulates user interactions with application views
- Usage: Verify correct application behavior
    - New feature development
    - Feature removal
    - Code refactoring

Espresso: Usage

- Procedure:
  - **Espresso** - set an entry point
  - **ViewMatchers** - find a view
  - **ViewActions** - perform an action on a view
  - **ViewAssertions** - verify your behavior
- Sample functions
  - `onView()`
    - `perform()`
      - `click()`
      - `scrollTo()`
    - `check()`
  - `onData()`

Considerations

- Write out your test cases first, then implement them
- Keep your tests as simple as possible
- Accurate timing is essential:
    - Too fast - may return false negatives
    - Too slow - increases total test suite time

Demo

Resources

- Espresso Official Documentation
- Efficient Android Testing Using WireMock And Espresso
- GitHub repo for Espresso demo code

Questions