
ERM
POWER


ERM
POWER
PROGRESSIVE
AUTOMATION IN AGILE.

# AGENDA

INTRODUCTION

OVERVIEW

ACCOMPLISHMENTS, CHALLENGES, LEARNINGS

# ABOUT ERM POWER

### EXPERIENCED
Over 30 years in energy sector, participant in NEM and WEM

### SECOND LARGEST ELECTRICITY RETAILER
Second largest electricity retailer to commercial and industrial customers in Australia with 20% of market*

### DEMAND RESPONSE
One of the largest programs in the NEM

### BATTERIES
Remote dispatch of battery technology

### GAS-FIRED GENERATION
Oakey NEM & Neerabup WEM

### RENEWABLES
offtake agreements underpin solar and wind farms

### WHOLESALE MARKET PARTICIPANT
One of the largest traders/hedgers of electricity, gas and renewables in the country

### INTERNATIONAL KNOWLEDGE
International perspectives and experience through Source Power & Gas LLC, US

### AUSTRALIAN OWNED
ASX-listed; Australian owned and operated

* By load

# PIUS KURIAN

### SENIOR TEST AUTOMATION ENGINEER
17 years in the software industry.

### EXTENSIVE EXPERIENCE
In architecture, development, manual testing and test automation.

### PASSIONS
My current passion is test automation. I am currently responsible for building a test automation framework from the ground up.

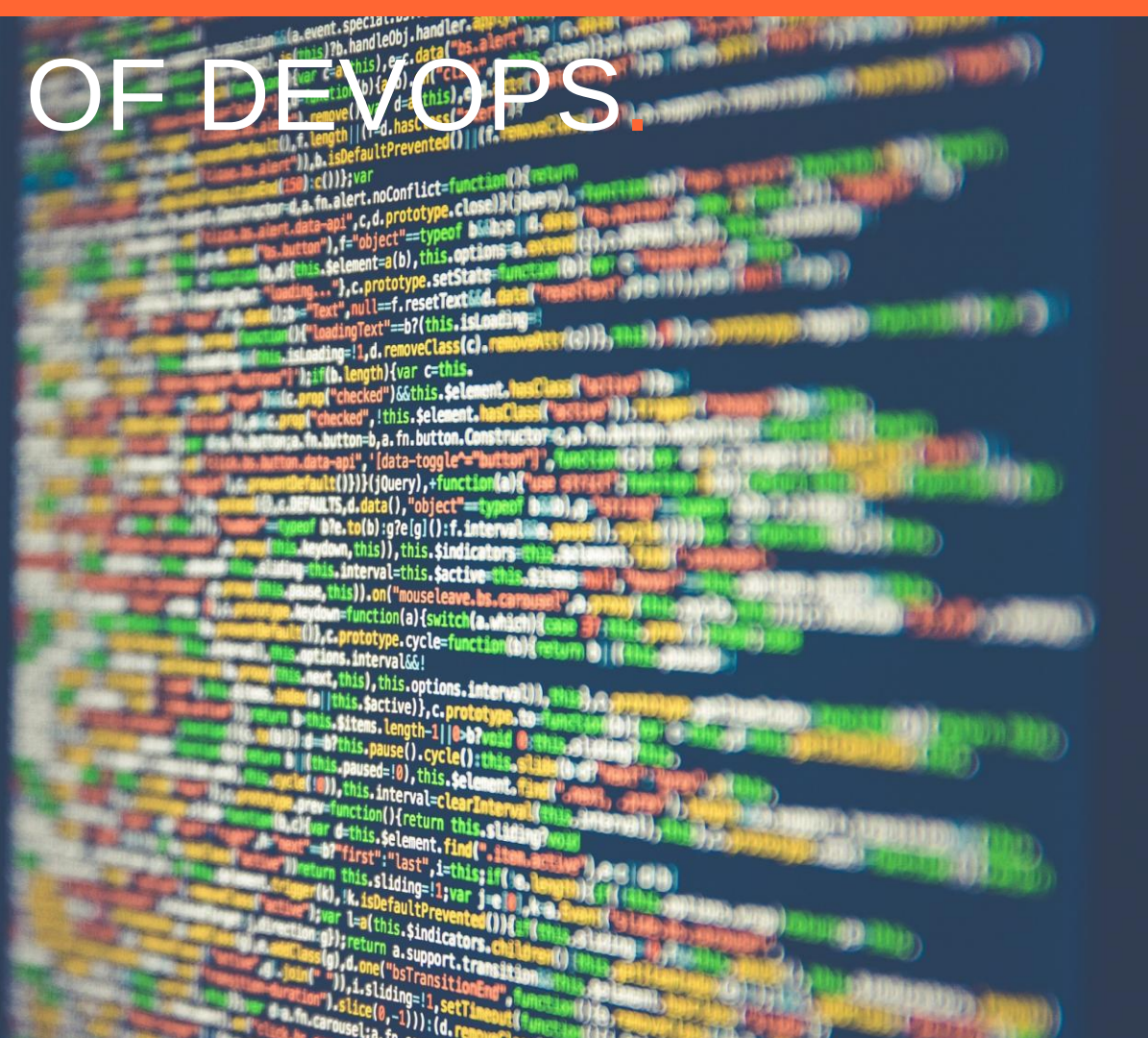
ERM POWER

# OVERVIEW

- Today I will discuss learnings from the most recent project where we attempted progressive automation as the test automation strategy which will be of interest to the testing community.

# ADOPTION OF DEVOPS.

## ERM JOURNEY.



# TO ENSURE DELIVERY OF QUALITY SOFTWARE, ERM ADOPTED A DEVOPS OPERATING MODEL AND CULTURE BY:

1. Increasing Automated tests.
2. Creating CI/CD pipeline.
3. Cloud based technologies.
4. Automated builds.


QUALITY.
A TEAM OBJECTIVE.

# AUTOMATED TESTING.

## DEFINITION OF DONE.

# AUTOMATED TESTING

## DEFINITION OF DONE.

:

All stories must be automated within the sprint

All stories developed with unit test

Integration and acceptance tests
fully automated

All stories manually tested first with test cases documented

# AUTOMATED TESTING.

## IMPORTANCE OF STRATEGY.

# AUTOMATED TESTING.

## IMPORTANCE OF STRATEGY BY DAYANA STOCKDALE.

Success in automation is not as much a technical challenge as it is a strategy and design challenge.

Automating software testing is only as revolutionary as it is designed to be.

Any time spent on strategizing automation effort is time well spent.

Key is to identify test cases that will stay relevant over time and will quickly identify any unintended changes as quickly as possible.

# AUTOMATED TESTING.

## PROPOSED STRATEGY.

# AUTOMATED TESTING

## PROPOSED STRATEGY.

Be smart in choosing tests for best ROI

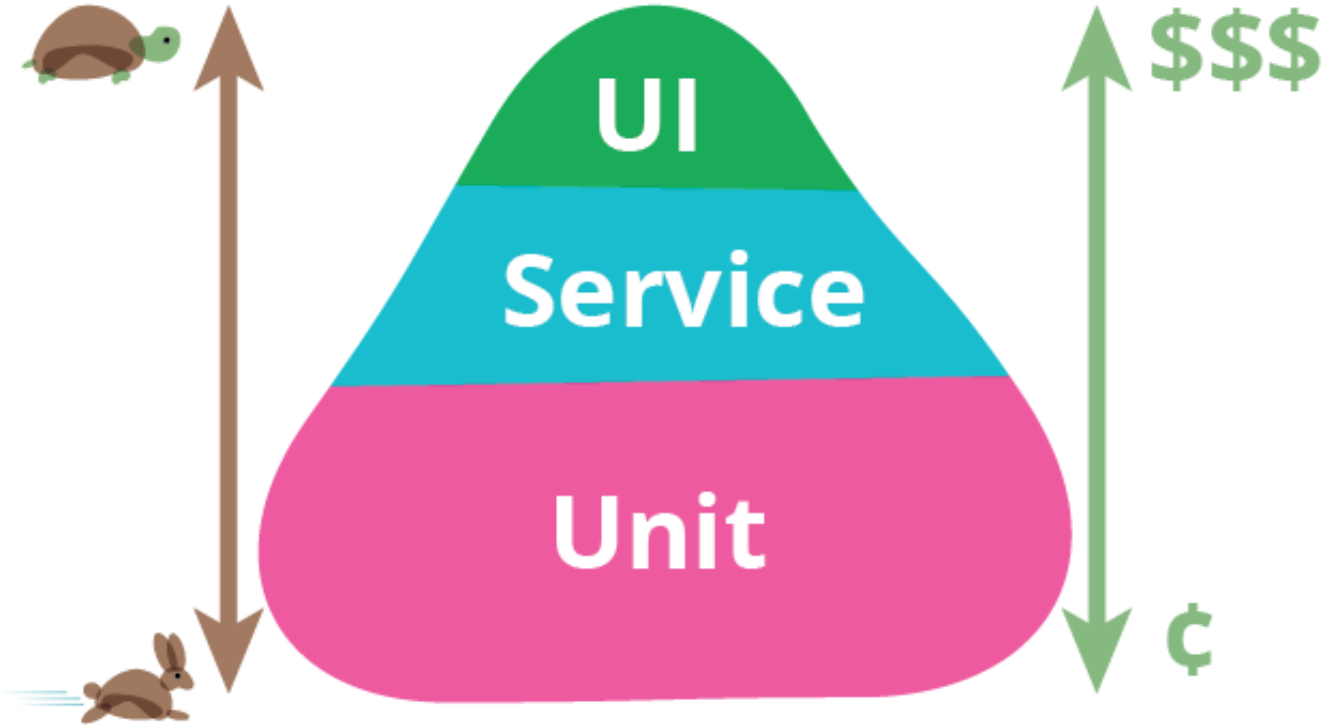
- Repetitive tests
- Large data sets
- High risk backend APIs.
- End user APIs
- UI tests for different browsers or devices

This was accepted as a good strategy to achieve the desired outcome by the team.

DEVs write unit tests as soon as or before the functionality is coded (TDD)

# TESTING PYRAMID

BY MIKE COHN



# AUTOMATED TESTING.

## ACCOMPLISHMENTS.

# AUTOMATED TESTING

## ACCOMPLISHMENTS.

- Created a BDD Framework automating most important user interactions to identify obvious issues early in the development cycle
- The report produced is used for validating and documenting the user stories including data used in tests.
- Generated logs may be hooked in to the proposed continuous monitoring framework for prompt alerts.
- Continuous regression of critical functionality while it is cheapest to fix issues

# AUTOMATED TESTING

## ACCOMPLISHMENTS cont.

- Identified issues that are difficult to detect with manual testing, such as verifying veracity of a large data set.
- Progressive tests became regression suit for subsequent iterations without additional effort.
- Got a better understanding of the possible issues that may be taken into consideration while attempting test automation in other projects.

# AUTOMATED TESTING.

## CHALLENGES.

# AUTOMATED TESTING

## CHALLENGES.

- There can be a perception that automation will find all issues, we need to constantly communicate on the limitations.
- Efficient triage of the user stories to identify maximum return with automation since it is not possible to automate everything.
- Automating stories that change most and are important from a business perspective

# AUTOMATED TESTING

## CHALLENGES cont.

- Creation of detailed manual test cases for the prioritised test cases for automation.
- Convincing developers to provide unique names for UI elements instead of depending on dynamically generated IDs.
- Limited understanding of the problem domain for the automation tester initially

# AUTOMATED TESTING.

## LEARNINGS.

# AUTOMATED TESTING

## LEARNINGS.

- Begin automating stories that are less likely to change.
- Plan for creating a test harness and static datasets instead of computing expected dataset dynamically to reduce external dependencies.
- Provide allowance for maintenance of old stories as new stories are developed while providing story points.
- Provision of dedicated environment strictly controlled by QAs to avoid inadvertent changes.

# AUTOMATED TESTING

## LEARNINGS cont.

- For automation to have the highest success, talk to your developers and get their support.
- Create a team of automation testers, manual testers, SMEs and QA Manager to identify best value test cases and to get a more independent perspective.
- Automating new application functions that are still being developed and evolving/changing frequently, may be less rewarding
- Create automated regression scripts for stories that passed manual testing. Detailed manual scripts helps automate the stories much faster.


QUESTIONS?