Are You Ready for AI to Take Over Your Automation Testing?

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Agenda

- Determine if your automation strategy can leverage the benefits of AI based tool
- Discuss success case study of using AI tool as part of automation testing
- Leverage AI tool in your CI/CD environment
- Discuss the ROI for your project and your team happiness factor.
About Lisette

Author, Speaker, Podcast host, Social entrepreneur, Women Confidence Coach, Software Quality Leader, Agile & Scrum Coach and Mom

I am proudly multi-talented, multi-passionate women that love empowering women to unleash our natural potential to up your confidence. I am a distinguished speaker that encourages women by empowering them and educate women on Breast cancer, STEM education, and leadership skills.

I am the President and CEO of a non-for-profit organization Zsquare4theCure our mission is to Empower, educate women on breast cancer awareness and provide FREE health care for women in rural communities in BENIN, TOGO, GHANA and Ivory Coast, all in west Africa. I started as an engineer, I am a software quality leader that enjoys leading software quality team, through producing high-quality applications in various industries using agile processes and tools with high performing team to delight your clients.

I am the founder of ZSI, a technology service firm that is focusing on helping company delivering high-quality software using simple processes, solid tools, and a smart team. In my free time, I love to travel and curate amazing travel experiences through Zsquare Adventures initiative to travel with the purpose to explore West Africa. And I love spending quality time cooking delicious meals from my cookbook, Zsquare Kitchen with my son, daughter, and husband in McKinney, TX. USA.

TO LEARN MORE ABOUT MY PASSION AND PROJECTS, VISIT MY WEBSITE AT ZSQUARECORNER.COM OR EMAIL ME AT CONTACT@ZSQUARECORNER.COM

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#PNSQC2020  Are You Ready for AI to Take Over Your Automation Testing?
Introduction
• In the past ten years, most QA automation tools provide QA engineer opportunities to create test automation, but we still lack in some areas such as efficiency in execution, reusability of the test cases and fast update.

• Manual testing may take a long time whenever a break in the script occurs. QA automation have room for improvement to enable fast error detection.
What is A.I

- Artificial Intelligence is becoming very crucial in information technology. In the last few years, software automation has been experimenting with AI and machine learning.

- Machine Learning is a pattern-recognition technology—it uses patterns identified by your machine learning algorithms to predict future trends.
Determine the benefits of using AI-based tool

• **Visual validation testing**

Visual testing is about verifying if the visual aspects of the application seem appropriate to the end-users. Visual bugs are usually rendering issues. Because of the accuracy of AI-powered automated visual testing, they can be deployed in more than just functional and visual testing. AI-powered visual testing tools are crucial to validating any application that requires a constant change in content and format.
Benefits of using AI-based tool

- Test APIs
  - Artificial intelligence-enabled API testing provides a leap forward in productivity and efficiency. You can capture all the steps in one set. With AI-enabled API, you can define something once and lock it in in a smart test template and share that template across a large body of testers. It helps to manage and understand the full API inventory. Users can benefit by adding machine learning to automate API test creation by bringing consistency and coverage to their efforts.
Benefits of using AI-based tool

• **Self-healing of automated tests**

There is a need for a system to detect break and fix automatically without human intervention. The automated test requires a lot of maintenance when you have an application that changes frequently. Self-healing or auto-healing is used to help adapt to any minor changes, so the tests keep working. Every time, tests are run, it interacts with an element; it collects element attributes that it uses to find the element next time and track change over time. The test could track many attributes such as text, CSS Classes, data, and other information like location and size on the page. Any test step that interacts with an element on the page can be auto healed.
Benefits of using AI-based tool

- Some of the advantages, AI have proven are:
  - Improve test cases creation
  - Improve quality gates
  - Spot duplicate errors and new errors in code changes
  - Create more reliable automated tests
Summary of successful case study of using AI-based tool for QA automation transformation
• **Problem:** Application had over 1000 test cases, and regression test cases took about 2-3 days for manual execution.

• **Solution:** A manual QA starts leveraging an AI based automation tool, to create test cases for 3-4 weeks from training to implementation with no prior coding experience.

• **Result:** Automation test cases execution took about 30 min successfully saving team 3 days for each new release to production that results in fast feedback from users and fast delivery.
# Tools comparison approach

<table>
<thead>
<tr>
<th>Options</th>
<th>Programming skills</th>
<th>Learning curves</th>
<th>Scripting language</th>
<th>Ease of installation and use</th>
<th>Script creation time</th>
<th>Continuous integration</th>
<th>AI BOT</th>
<th>Devops/ALM integration</th>
<th>Multi browser</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenium</td>
<td>Advanced skills needed</td>
<td>High</td>
<td>•Java •C++ •Perl •Python •Java script •Ruby •PHP</td>
<td>Requires installing and integration with various tools</td>
<td>Slow</td>
<td>Various CI tools (Jenkins, cruise)</td>
<td>No</td>
<td>No</td>
<td></td>
<td>Free</td>
</tr>
<tr>
<td>Katalon Studio</td>
<td>Not Required</td>
<td>Medium</td>
<td>Java/ Groovy</td>
<td>Easy to set up</td>
<td>Quick</td>
<td>Popular CI tools</td>
<td>Many</td>
<td>Yes</td>
<td></td>
<td>Free</td>
</tr>
<tr>
<td>UFT or QTP</td>
<td>Not Required, advanced skills for complex tests</td>
<td>Medium</td>
<td>Vbscript</td>
<td>Easy to set up</td>
<td>Quick</td>
<td>Various CI tools</td>
<td>Many</td>
<td>Yes</td>
<td>License and maintenance fees</td>
<td></td>
</tr>
<tr>
<td>Test Complete</td>
<td>Not Required but recommended</td>
<td>Medium</td>
<td>•Java script •Python •VBScript •C++</td>
<td>Easy to set up and run</td>
<td>Quick</td>
<td>Various CI tools</td>
<td>Many</td>
<td>Yes</td>
<td>License and maintenance fees</td>
<td></td>
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<tr>
<td>Mabl</td>
<td>Not Required</td>
<td>Very low</td>
<td>None</td>
<td>Very easy</td>
<td>Very quick</td>
<td>Various CI Tools</td>
<td>Yes</td>
<td>Many</td>
<td>License</td>
<td></td>
</tr>
</tbody>
</table>

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Leverage A.I Based Tool in CI/CD

- Intelligent testing
- Error detection on each environment
- Consistent execution of each test cases on all environments
Impact of AI on SDLC

• With machine learning models, most of the features will be automated which means that human error will be eliminated.
• The shift from agile to AI development is much more dramatic than that from waterfall to agile.
Return on Investment on the project

- Fast time to market
- High-quality software
- Fast feedback loop to the customer
- Fast response to the issue
ROI on Team happiness

- Embrace lifelong learning mindset
- Cross-functional team involvement
- Increase team confidence
- Team happiness increase
- Better team engagement
- Great teamwork and collaboration
- QA become a fun activity and no longer a bottle neck
Conclusion

• Artificial intelligence has a profound impact on software development.
• Test automation is a key capability in the age of agile since it facilitates faster product iterations.
• You can expect to boost your productivity, cut costs, speed up the entire development process, and create a more successful, easily-scalable product.
Thank You for joining

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Questions