Case Study: Test Automation for a Cloud based healthcare

Project Overview

Objective: Keeping track of medical records can be difficult if health information is in multiple places, in various formats. The app makes the job of organizing this information easier. It is a Cloud based healthcare app that collects and manages data from various sources, including wearable, lab reports, and doctor and hospital visits.

Challenges
- Minimal Documentation
- Ad Hoc QA Process
- Doing daily builds not possible
- Regression Testing was all manual, thus requiring more than 24 hours of regression effort
- CI/CD was hampered due to above
- Integration challenges for EHR, geofence restrictions etc.
- Defect leakage high due to insufficient device coverage and less regression testing due to lack of time

About The Client:
The client is a mobile application provider for individuals to aggregate, organize, and share their medical records on a block chain
Case Survey

- Implement automation to minimize regression time.
- Create test artifacts for better understanding and ramp up.
- Design QA processes to streamline releases and make it a predictable process.
- Make it a continuous integration process.

Technology

- Jenkins
- Grafana
- Appium
- JMeter
- Xamarin
- Swagger
- Zap
- Postman

Application Snapshot

Our Solution

- API Automation done extensively to test various combinations and integrated with build triggers thus providing quick feedback about build quality
- End to End UI Automation done using Appium
- Performance Testing using JMeter
- Automation triggered through Jenkins build job
- Jira used as test management tool to create required test artifacts and collaboration with stakeholders
- ITAF enabled continuous integration & deployment
## Business Benefits Delivered

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>0%</td>
<td>85%</td>
</tr>
<tr>
<td>24 hours</td>
<td>2 hours</td>
</tr>
<tr>
<td>8%</td>
<td>0.50%</td>
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<tr>
<td>200</td>
<td>1500</td>
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<tr>
<td>3 per Week</td>
<td>Twice a day</td>
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<tr>
<td>2</td>
<td>8</td>
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![Manual vs Automated Regression](image)

- All Regression cases automated
- Regression time reduced by 90%
- Almost Nil defect leakage
- Test case increased 7 fold.
- Faster time to market
- Product now tested on all supported Devices (Device Coverage)
- 70% cost reduction with India team