**Challenge 2 and 3**

**Challenge 2**

**Recommended tool for Automation Test Setup for iOS and Android Native app.**  
  
Below points to be consider to select suitable mobile test automation tool,  
Platform Support, Cost of the tool, Support, Connectivity with other tools, Technology support, Suitability with cross platform.  
In my opinion, Appium is the best suitable mobile automation tool.  
Please see below table for its compatibility in any Automation Test Setup,

|  |  |  |
| --- | --- | --- |
| Platform Support | Android | Yes |
|  | iOS | Yes |
| Type of Mobile app support | Native | Yes |
|  | Hybrid | Yes |
|  | Mobile web | Yes |
| Technology Support | Support Scripting / Programming Languages | JAVA, C#, Ruby, Python, Perl |
| Connectivity with other tools | Integration with CI tools | Plugins available. |
| Cost of tool | Free | Open source tool |
| Support | Community or Website | Extremely Active community |

We have several benefits of using Appium automation tool,  
1. Use of standard API: Appium is widely popular because modification of codes or a recompilation of your app is not required as it uses the standard API in all the platforms. Appium makes it effortless to create your tests against iOS and Android platforms with same API.

2. Use any WebDriver compatible language: Any WebDriver compatible language like Perl with Selenium WebDriver API, Java, PHP, C#, Python, Ruby, Javascript with Node.js can be used for writing the tests.

3. Testing Framework of Choice: Appium gives flexibility to mobility teams to use testing framework of their choice.

4. Cross-platform test automation: Having the capabilities to test on both Android and iOS devices makes it the best cross-platform mobile app test automation tool.

5. Open Source: Being an open source testing framework is one of the biggest advantages of Appium as it supports Simulators, Emulators, real devices, and of course, native, hybrid and web application testing of iOS and Android.

**Ideal CI Pipeline to ensure the customer gets the best possible quality**  
Having a CI/CD pipeline in place brings many benefits not only to the product team but also to the organization’s business values.   
Generate builds faster, improve time to Market, Improve Code Quality, Better Developers efficiency.  
  
  
Benefits for Implementing CI/CD  
  
The ultimate aim for any software application is to reach its potential customers faster than ever before. This is exactly what the CI/CD pipeline offers to any business model that leverages a software process which reduces the risks in each build and helps the end product to reach the customer quicker.  
Achieve Faster Feedback Through CI Tools, Greater Visibility, Early Bug detects.

**Challenge 3**  
  
**Testing technology, tool or practice you think is the “next big thing” in Software Testing.**  
  
  
DevOps will drive Quality Engineering:   
DevOps ideology is based on seamless collaboration and integration between different departments of an IT Organization – developers, quality professionals, and IT professionals.   
Testing plays a business-critical role as developers are involved not just in the correctness of their code, but also in the testing and overall quality engineering aspects. DevOps, thus, is propelling businesses towards greater speed of deployment and quality assurance, thus, helping them realize higher returns on investment and faster time-to-market in a cost-efficient manner.  
  
Software Development Engineers in Test (SDETs) will continue to be in huge demand:   
SDETs have been existing among us for a couple of decades. However, their initial role was quite different from the typical testing roles. Now, almost all testers will need to wear an SDET hat to be successful in the field of Test Automation.  
  
The Future belongs to AI based and Open-Source cloud based testing Tools:   
More and more businesses will adopt AI based and open-source testing tools for proper implementation of Agile, DevOps, and Test Automation within their organizations. The involvement and activeness of support communities for the open-source tools will continue to increase.  
Artificial Intelligence will help the testing tool become smarter. It is just like type what you want to test in plain English and tool creates automated functional test cases.