Testing Strategy for ARS

Objectives

- Ensure that the software meets the requirements specified in the project specifications maintained in JIRA.
- Identify and resolve defects and bugs in the software.
- Validate that the software is usable and reliable.

Testing Types

1. **Functional Testing**
    - Test each function to ensure that it performs according to the requirements.
    - Validate input and output of the functions.

2. **Performance Testing**
    - Test the speed and responsiveness of the software.
    - Validate that the software can handle expected loads.

3. **Cross Browsing Testing**

    Test how application behave in different browsers /machines /devices

4. **Regression-Automation - Testing**

    Test previously completed functionality to ensure it still works after new changes are made using Automation -Jenkins -CI-CD pipelines

5. **Zap -Security Testing**

    Validate that the software complies with security standards

6. **Exploratory Testing**

    Testing the application in ad hoc basis

7. **Unit Testing**

    Testing the code as per industry standards

8. **Accessibility Testing**

    Testing the app with end user experience

9. **Pen Testing**

    Test the software for potential security vulnerabilities

10. **SIT** ~~End to End~~ **Testing**
     Test how different parts of the software integrate with each other

References & Supporting Documentation

Ref	Document Title	Version
1	ARS Project Overview	https://confluence.tools.tax.service.gov.uk/display/ARS/Project+Information
2	ARS Alpha Phase	https://confluence.tools.tax.service.gov.uk/display/ARS/ARS+Alpha+Phase
3	ARS Discovery	https://confluence.tools.tax.service.gov.uk/display/ARS/ARS+Discovery
4	ARS Work Product	https://confluence.tools.tax.service.gov.uk/display/ARS/Work+Products
5	ARS Team and Roles	ttps://confluence.tools.tax.service.gov.uk/display/DP/People+and+roles
6	ARS Test Environments	https://confluence.tools.tax.service.gov.uk/display/DTRG/Test+Environments
7	ARS Acceptance -Regression Test Repos	https://github.com/hmrc/advance-valuation-rulings-acceptance

QA Tasks and Timelines

Test Items	Owner	Time scales
Functional QA	Sathya Nomula	Everyday
Performance -Gatling QA	Sathya Nomula	Everyday
Cross Browsing QA	Sathya Nomula	Weekly Once
Automation -CI-CD-Jenkins QA-Regression	Sathya Nomula	Everyday
Zap -Security QA	Sathya Nomula	Everyday
Exploratory -Ad hoc QA	Sathya Nomula	Everyday
Unit QA	Internal Dev Team	Everyday
Accessibility Testing	External Team	Plan to start 3rd week March 2023
Pen Testing	External Team	Plan to start 3rd week March 2023
SIT	External Team	Plan to start 15th March to 25th March