**Unit 4: Introduction to Testing**

**Objectives:**

* Explore the range of questions to ask when developing a test plan.
* Become familiar with two industry software testing standards.
* Examine a range of testing techniques and appreciate the relevance of each in different testing scenarios.
* Recognize the tools and frameworks which are available to support and automate the Python testing process.
* Reflect on the utility of an ontology to support a distributed architecture.

**Outcomes:**

* Describe the key terms which are associated with testing software for security.
* Prepare a list of questions to ask when designing a test plan for secure software.
* Design software tests through understanding the range of ways which the security of software can be breached.
* Design an ontology which can be used in standardized service deployments.

**Reflection:**

It can be said that software testing is the way of checking and justifying whether a product  is bug free, fulfils the technical requirements as directed by its design and development, and fulfils user needs quickly and successfully by managing all the unparalleled and boundary cases (GeeksforGeeks, 2017).

One of the most important things in software testing is a well-documented test plan that outlines everything from testing objectives to testing schedules to tracking deliverables to identifying resources needed.

1. Project Details
2. Who are the key stakeholders?
3. Testing Scope
4. Project Risks (from a testing perspective.)
5. Testing Process
6. User Acceptance Testing
7. Reporting

Some of the most useful standards for software testers includes **ISO 9126, ISO 12207**, ISO 15504 and ISO 25000 (Softwaretestinghelp.com, 2017).

Python has got framework that can be used for testing. Since the language is Python, regarded one of the most versatile languages in the world, quirks of such framework is many. Some of them are,

* Robot framework
* Pytest framework
* UnitTest framework
* Behave
* Lettuce

**References:**

Softwaretestinghelp.com. (2017). *Types of Software Testing: Different Testing Types with Details*. [online] Available at: <https://www.softwaretestinghelp.com/types-of-software-testing/>.

GeeksforGeeks. (2017). *Software Testing | Basics*. [online] Available at: https://www.geeksforgeeks.org/software-testing-basics/?ref=lbp [Accessed 26 Jun. 2022].