**PRACTICAL – 7**

**AIM**: Prepare the details Case Study on Design coding standards and guidelines for your respective SGP project definition and justify which Software Quality Standards & Testing Tool will be suitable for your SGP project.

**THEORY**

Different modules specified in the design document are coded in the Coding phase according to the module specification. The main goal of the coding phase is to code from the design document prepared after the design phase through a high-level language and then to unit test this code.

**Purpose of Having Coding Standards:**

* A coding standard gives a uniform appearance to the codes written by different engineers.
* It improves readability, and maintainability of the code and it reduces complexity also.
* It helps in code reuse and helps to detect error easily.
* It promotes sound programming practices and increases efficiency of the programmers.

**Few coding standards include:**

* Limited use of globals
* Standard headers for different modules
* Naming conventions for local variables, global variables, constants and functions
* Proper indentation
* Error return values and exception handling conventions
* Avoid using a coding style that is too difficult to understand
* Avoid using an identifier for multiple purposes
* Code should be well documented
* Length of functions should not be very large
* Try not to use GOTO statement

**Advantages of Coding Guidelines**:

* Coding guidelines increase the efficiency of the software and reduces the development time.
* Coding guidelines help in detecting errors in the early phases, so it helps to reduce the extra cost incurred by the software project.
* If coding guidelines are maintained properly, then the software code increases readability and understand ability thus it reduces the complexity of the code.
* It reduces the hidden cost for developing the software.

**SGP CASE STUDY**

**Introduction:**

Our SGP is based on Face Comarison. We have created an easy-to-use website to find the base of a computer vision for finding the lost person,

**Programming language:**

Our website is made in Django. Django is one of the famous programming language majorly used for client side scripting.

**Quality Standard:**

* Functionality - We have tried to make it as user friendly as possible. We have added the functionalities such that user has to do the minimum work.
* Reliability - We have tried to make it as reliable as possible. We have also used the best formulae to predict the probability and implemented heatmap for better understanding of the output.
* Usability - It is very easy to use so any user can easily access and use it.

**Testing Tools:**

Maveryx:

The Maveryx Test Automation Framework provides functional UI, regression, data-driven and keyword-driven testing capabilities for a wide range of desktop and Web technologies. Its innovative and intelligent technology inspects the application’s UI at runtime as a senior tester does. No code instrumentation, GUI capture, maps and object repositories. By Maveryx, you can start automation early and speed up your time-to-market without compromising on quality.

Selenium:

Selenium is a portable framework for testing web applications. Selenium provides a playback tool for authoring functional tests without the need to learn a test scripting language (Selenium IDE). It also provides a test domain-specific language (Selenese) to write tests in a number of popular programming languages, including C#, Groovy, Java, Perl, PHP, Python, Ruby and Scala. The tests can then run against most modern web browsers. Selenium runs on Windows, Linux, and macOS. It is open-source software released under the Apache License 2.0.

**CONCLUSION**

In this practical, we learned about coding standards and we used that concept on our SGP and derived some coding standard for it.