



## DESCRIPTION OF COURSEWORK

Course Code	SWE301
Course Name	Software Verification and Validation
Lecturer	Subashini Raghavan
Academic Session	2024/09
Assessment Title	Techniques that Improves the Limitation and Challenges of Software Verification and Validation in Web Application.

### A. Introduction/ Situation/ Background Information

In this assignment, the students are able to analyze key principles software verification and validation (V&V), determine the limitation of the software V&V and recommend techniques to further improve the V&V in web application. This is an individual assignment.

### B. Course Learning Outcomes (CLO) covered

At the end of this assessment, students are able to:

CLO1 Analyze key principles of: software V&V, software testing and inspection process. (C4)

CLO2 Recommend the application of V&V concepts and techniques to support and complement the development and implementation work of computer systems and mobile application. (C5)

### C. University Policy on Academic Misconduct

1. Academic misconduct is a serious offense in Xiamen University Malaysia. It can be defined as any of the following:
  - i. **Plagiarism** is submitting or presenting someone else's work, words, ideas, data or information as your own intentionally or unintentionally. This includes incorporating published and unpublished material, whether in manuscript, printed or electronic form into your work without acknowledging the source (the person and the work).
  - ii. **Collusion** is two or more people collaborating on a piece of work (in part or whole) which is intended to be wholly individual and passed it off as own individual work.
  - iii. **Cheating** is an act of dishonesty or fraud in order to gain an unfair advantage in an assessment. This includes using or attempting to use, or assisting another to use materials

that are prohibited or inappropriate, commissioning work from a third party, falsifying data, or breaching any examination rules.

2. All the assessment submitted must be the outcome of the student. Any form of academic misconduct is a serious offense which will be penalised by being given a zero mark for the entire assessment in question or part of the assessment in question. If there is more than one guilty party as in the case of collusion, both you and your collusion partner(s) will be subjected to the same penalty.

#### **D. Instruction to Students**

##### **1.0 Individual Assignment**

This assignment contributes **20%** towards the continuous assessment.

Prepare a Journal Paper Format that includes

1. Abstract – 1 paragraph
2. Introduction
3. Answers to the Research Questions
  - RQ1: What are the verification and validation limitations or challenges for web application systems?
  - RQ2: What existing verification and validation techniques can we use to tackle the challenges found in answering RQ1?
  - RQ3: What are some of the recommendation for the remaining challenges not tackled by the existing techniques found in answering RQ2?
4. Conclusion

You are required to **analyze (CLO1, C4)** the limitation/challenges of the Software V&V and **determine (CLO1, C4)** existing verification and validation techniques can we use to tackle the limitation/challenges and **recommend (CLO2, C5)** techniques to further improve the V&V in web application in a journal paper format.

You are required to conduct research by referring to journal papers.

- STEP #1 Finding an article >> You may find the journal papers, articles using GoogleScholar. Use the keyword “verification and validation + web application + challenges/limitations/techniques” or any other than this when do the searching. The paper can be in any years, best within 10 years. Read the abstract, check the keywords and the conclusion to help you choose the articles
- STEP #2 Reading your article: Read the abstract, the result and the conclusion.
- STEP #3 Writing your summary and analysis to guide you in writing the journal paper. Include the full reference for the paper you are analyzing at the end, in proper APA format.

## 2.0 Instruction Due on Week 4 (Friday 11:59pm)

### 1. Report format:

- Font: Times New Roman
- Size: 11 for entire assignment, EXCEPT sub topics if any (size 14)
- Spacing: Single
- Alignment: 'Justify' - normal

### Abstract Format

*The abstract is to be in fully-justified italicized text as it is here, below the author information. Use the word "Abstract" as the title, in 12-point Times New Roman, boldface type, centered relative to the column, initially capitalized. The abstract is to be in 11-point, single-spaced type, and may be up to 3 in. (18 picas or 7.62 cm) long. Leave two blank lines after the abstract, and then begin the main text. All manuscripts must be in English.*

**Keywords:** *We would like to encourage you to list your keywords in this section*

### Main Title

The main title (on the first page) should from the top edge of the page, centered, and in Times New Roman 14-point, boldface type. Capitalize the first letter of nouns, pronouns, verbs, adjectives, and adverbs; do not capitalize articles, coordinate conjunctions, or prepositions (unless the title begins with such a word) (*e.g.* **A Comparative Study of Privacy Protection Methods for Smart Home Environments**). Please initially capitalize only the first word in other titles, including section titles and first, second, and third-order headings (for example, "Titles and headings" — as in these guidelines). Leave two blank lines after the title.

### Main Text

Type your main text in 11-point Times New Roman, single-spaced. Be sure your text is fully justified. Please do not place any additional blank lines between paragraphs.

2. The length of the assignment should be **FIVE (5) pages ONLY** (exclude the cover page, table of contents, references and attachments, TURNITIN report and Rubric Scoring).
3. Reference and citation - APA Style either 6 or 7th edition (If any). You may refer to <https://www.mendeley.com/guides/apa-citation-guide>
4. Please attach the assessment rubric together with your written assignment for submission purposes.
5. Please upload the document to TURNITIN to generate the plagiarism percentage.

6. You MUST attached the whole report from the TURNITIN for the submission purposes (EXCLUDE cover page, declaration of work, table of contents, reference, appendix or any pictures (if any) as to avoid high similarity percentage).

7. Report Submission

- Convert your document to PDF format. Save the pdf as [StudentID].pdf.
- Submit your paper in the provided section on Moodle. Only ONE report is submitted in Moodle before the due date.
- Please read the instructions given on Moodle before you proceed with the submission.
- **The deadline for this assignment is in Week 4, Friday, 11/10/2024 latest by 11:59 PM.**

8. TURNITIN submission – **read these instructions carefully**

Instruction:

- Only ONE (1) submission is allowed. Make sure to check your document CAREFULLY before uploading it to TURNITIN.
- Resubmission of assessment will not be allowed at all cost, thus, make sure to recheck your work and make sure you upload the accurate document to TURNITIN.
- Any excuse regarding this matter will NOT be entertained.
- The document to be uploaded to TURNITIN should be in Word file only (not in PDF). Your uploaded document must EXCLUDE cover page, declaration of work, table of contents, reference, appendix or any pictures (if any) as to avoid high similarity percentage.
- View your submission immediately to ensure that the entire document has been upload completely and successfully.
- You have to print the whole document (TURNITIN Report) and attach it together at the last page of your written assignment.

TURNITIN DETAILS:

Class Name: SWE301  
Class ID: 38149101  
Enrollment Key: SWE301

#### **D. Evaluation Breakdown**

<b>No.</b>	<b>Component Title</b>	<b>Percentage (%)</b>
1.	General	20%
2.	Integration of Knowledge	20%
3.	Depth of discussion	20%
4.	Organization	20%
5.	References & Format	20%
	<b>TOTAL</b>	<b>100%</b>

#### **E. Task(s)**

##### **Report (100%)**

Students have to submit their report in a softcopy format on the 5<sup>th</sup> week of Academic calendar.

In your report the following details are required:

Please refer to the assignment rubric for the documentation marks distribution. (Appendix A)

## APPENDIX A

### MARKING RUBRICS

Component Title	Assignment					
Criteria	Score and Descriptors				Weight (%)	Marks (Score x Weight)
	Excellent (5)	Good (4)	Average (3)	Need Improvement (1-2)		
General	The topic was very well-researched. The factual points clearly supported the answer to their research question. Statements were supported by quality research based on their articles. Clearly demonstrated in-depth knowledge of this topic.	The topic was good and acceptable. The points are acceptable and supported the answer to their research question. Statements were supported by acceptable quality research based on their articles. Clearly demonstrated knowledge of this topic.	The topic was average. The points are averagely acceptable that the students’ answer to their research question. Statements were supported by average quality research based on their articles. Averagely demonstrated knowledge of this topic.	The topic was not researched in depth. The research evidences were not used help answer the research question or was applied inaccurately. The knowledge of this topic seemed very surface-level, indicating a lack of thoughtfulness and understanding.	4	
Integration of Knowledge	The paper demonstrates that the author fully understands and has applied concepts learned in the course. Concepts are integrated into the writer’s own insights. The writer provides concluding remarks that show analysis and synthesis of ideas.	The paper demonstrates that the author, for the most part, understands and has applied concepts learned in the course. Some of the conclusions, however, are not supported in the body of the paper.	The paper demonstrates that the author, to a certain extent, understands and has applied concepts learned in the course.	The paper does not demonstrate that the author has fully understood and applied concepts learned in the course	4	
Depth of discussion	In-depth discussion & elaboration in all sections of the paper.	In-depth discussion & elaboration in most sections of the paper.	Discussion & elaboration in most sections of the paper is average.	Brief discussion in only a few sections.	4	
Organization	Paper is well-organized. Ideas are arranged logically, flow smoothly, with a strong progression of thought from paragraph to paragraph connecting to the central purpose or position statement. Includes all required components.	Paper is organized for the most part. Ideas are arranged logically and usually linked clearly from paragraph to paragraph connecting to the central purpose or position statement. Includes required components for the most part.	Paper is organized in general, although occasionally ideas from paragraph to paragraph may not make sense to the central purpose or position statement and/or be clear as a whole and/or may be lacking a required component.	Paper lacks logical organization and impedes readers' comprehension of ideas. Central purpose or position statement is rarely evident from paragraph to paragraph, and/or is missing required components.	4	
References & Format	Adequate citation or references and are effectively used not accordingly to APA style. Paper conforms to the journal paper format.	Citation or references serve a purpose and are generally well-used accordingly to APA style. Paper almost fully complies with the journal paper format but there is some inconsistency.	Cites some data obtained from other sources. Citation style is either inconsistent or incorrect. Contained a few references but no citation accordingly to APA style. Paper does not fully comply with the writing format.	Paper does not comply with the journal paper format. No reference and citation. The references and citation not accordingly to APA style.	4	
					TOTAL	/100

Note to students: Print out and attach this appendix together with the submission of coursework.