Practicum Guidelines

Proposal
&
Practicum Report

Prepared and published by:
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School of Computing, College of Arts and Sciences
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Committee 2017
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Content

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Introduction

Practicum (also known as Industrial Training) is one of the compulsory conditions for all students at the School of Computing, College of Arts and Sciences (CAS) to fulfil the requirement for a Bachelor of Science in Information Technology with Honours [BSc.(IT)]. The Practicum code is **STIX3912.**

The purposes of the Practicum are to:
- expose the students to a real working environment.
- enhance the students' knowledge through exposure to industrial/organisation operations.
- provide opportunities for the students to conduct actual tasks in a more challenging environment.

During Practicum, students will be assessed on their communication capability while applying their theoretical and practical knowledge.

Students are eligible for Practicum after accumulating at least 110 credit hours (sixth semester). Students also abided by all Universiti Utara Malaysia (UUM) Practicum program regulations. Practicum will be implemented for 24 weeks (six months) at the allocated organisations.

Practicum links the School of Computing, College of Arts and Sciences (CAS) and industries/organisations. It is expected that the outcomes of the Practicum will not only enhance the student's knowledge but also assist the industries/organisations in managing IT sources. This can also provide literal feedback to CAS in identifying the requirements of industries/organisations and the student's weaknesses in an effort to strengthen its curriculum. With that, CAS will be able to produce more capable graduates to fulfil workforce demand in particular areas.

1.1 Forms

Students require FOUR (4) Practicum related forms. The forms are:

Ref. No	Colour Code	Form
PRAK01	Green	Organization Evaluation Form
PRAK02	Yellow	UUM's Supervisor Evaluation Form
PRAK03	Blue	Practicum Checklist
PRAK05	Brown	Online Logbook Declaration Form

Note:

a) PRAK01 form needs to be submitted to Organisation's Supervisor.
b) PRAK02 form must be handed to the Visiting Lecturer (UUM) during the Practicum visit.
c) PRAK03 form must be kept by the student and signed by the UUM Supervisor accordingly.
d) PRAK05 form needs to be submitted to the Organisation's Supervisor. The Organisation's Supervisor must fill it out after read-through the student's Online Logbook.
e) Please ensure all information is written completely and clearly on the front page of the form.

1.2 Practicum Information

Information about Practicum can be obtained from https://github.com/socuum/STIX3912/wiki and the Practicum Unit, Academic Affairs Department (HEA), UUM.

1.3 Practicum Regulation

During Practicum, students are subject to UUM's regulations. The following are the main things that need to be aware by students:

a) Confirmation of Practicum
Students must confirm their attendance at the organisation by returning their attendance confirmation slip to the Practicum Unit, Academic Affairs Department (HEA), UUM. Students are also required to inform their supervisors regarding the aforementioned status.

b) Postponement of Practicum

Postponing Practicum is not allowed except for students with serious health issues. For more information, please refer to the Practicum Unit, Academic Affairs Department (HEA), UUM.

c) Report Preparation

In preparing the report, students are subject to the Act and Regulations of Academic Treachery from paragraph 12 UUM Act (Examination) 1988. Academic treachery includes any acts that break any examination rules and plagiarising project papers, academic practice, or any assignments and courses. If found guilty, the Students Discipline Body can execute one or more of the following punishments:

- Warning.
- Fine not more than RM 200.00.
- Suspension from any or all University's facilities in a certain decided period of time.
- Exclusion from any part of the University in a certain decided period of time.
- Expulsion from University.

d) Incomplete (TL)

Students can apply for an incomplete grade (TL) if they have not completed specific components such as Practicum Report. This application must be applied to the Practicum Unit, Academic Affairs Department (HEA), through the SOC supervisor. For more information, please refer to the Practicum Unit, Academic Affairs Department (HEA), UUM.

e) Disciplines during Practicum

Students who are terminated from Practicum, which is caused by disciplinary issues confirmed by the supervisors, will be given an F grade. For more information, please refer to the Practicum Unit, Academic Affairs Department (HEA), UUM.

1.4   Supervision and Visitation to Organisation

Practicum supervision aims to ensure the students are given proper tasks based on their Practicum project scope. The supervision is conducted by:

1) UUM Supervisor (SOC - CAS)
2) Organisation's Supervisor
3) Visiting Lecturer (UUM)

Lecturers play the role of supervising and monitoring students' tasks starting from the date they registered until the end of the Practicum. The particular supervisors will consult students from the stage of writing the proposal to the stage of checking the Practicum Report. Meanwhile, the Visiting Lecturers are the link between UUM and organisations to ensure good relationships and future cooperation. The Visiting Lecturers will evaluate the project presentation at the organisation.

The following is the list of actions that must be taken by students and every Lecturer (students must inform the Supervisor regarding actions that must be taken).

	Actions
Student	a) Submit a proposal to the UUM's Supervisor.
	a) Present the project to the Organisation's Supervisor and Visiting Lecturer during the visit.
	b) Prepare the related forms for the Supervisors and Visiting Lecturer.
	c) Submit the Online Logbook URL, the draft, and Practicum Report to the UUM's Supervisor.
	d) Remind the Organisation's Supervisor to complete the Organization Evaluation Form (PRAK01) and Online Logbook Declaration Form (PRAK05) to be submitted to the UUM's Supervisor.
	e) Submit the attendance form to the UUM's Supervisor.
UUM's Supervisor (SOC)	a) Responsible for the students during the entire Practicum duration.
	b) Sign the PRAK03 form accordingly.
	c) The main link between SOC-CAS and Organisation's Supervisor
	d) Monitor students' work performance.
	e) Monitor students' project progress.
	f) Evaluate students' performance using the PRAK02 form.
Visiting Lecturer (UUM)	a) Act as the link between UUM and organisations to ensure good relationships and future cooperation.
	b) Evaluate the project presentation during the visit and fill in Section A of the PRAK02 form.
	c) Observe the suitability of the organisation for Practicum placement.
Organisation's Supervisor	a) Assign a suitable project to the student.
	b) Review the Online Logbook and attendance.
	c) Evaluate project presentation.
	d) Submit the PRAK01 and PRAK05 forms to the UUM's Supervisor.

1.5   Evaluation Components

Practicum evaluation is divided into **TWO (2)** components:

a)   UUM's Supervisor Evaluation Form (PRAK02)   **60%**
- Proposal
- Online Logbook
- Presentation
- Practicum Report (Draft and Final)
- Individual assessment

b)   Organization Evaluation Form (PRAK01)   **40%**
- Presentation
- Project
- Individual assessment

Students who do not fulfil any of the above evaluation components will be considered **FAIL** in Practicum.

Practicum activities phases are as follows:

Phase	Item	Action	Notes
Before Practicum	1) Students register at the Practicum Unit, Academic Affairs Department (HEA)	Student	
	2) Students attend Practicum workshop	Student	
	3) Students are assigned to UUM's Supervisor	Practicum Unit, Academic Affairs Department (HEA)	Check portal/ announcement
	4) Students meet the assigned UUM's Supervisor	Student	
During Practicum	5) Students register at the organisations	Student	Day 1
	6) Students submit confirmation of registration form to the Practicum Unit, Academic Affairs Department (HEA)	Student	Week 1
	7) Students report the organisation environment to the UUM's Supervisor	Student	Week 1
	8) Students discuss a project with Organisation's Supervisor	Student	Week 1
	9) Students submit a proposal to UUM's Supervisor and Online Logbook URL.	Student	Week 2
	10) Students start the project	Student	
	11) Students report the project progress	Student	
	12) Visiting Lecturers inform visiting dates	Visiting Lecturer	
	13) Students inform Organisation's Supervisor regarding the visiting dates	Student	
	14) Students give feedback about the visiting date to Visiting Lecturer	Student	
	15) Visiting Lecturer confirm the visiting date	Visiting Lecturer	
	16) Visiting Lecturer visits the organisation	Visiting Lecturer	
	17) Students present the project to Supervisor and Visiting Lecturer	Student	

	18) Students submit a report draft	Student	A month before Practicum ends
After Practicum	19) UUM's Supervisor check the report draft and give feedback to students	UUM's Supervisor	Two weeks before Practicum ends
	20) Students submit attendance sheets to the UUM's Supervisor	Student	One week after Practicum ends
	21) Organisation's Supervisors submit PRAK01 and PRAK05 forms to lecturer.	Organisation's Supervisor	One week after Practicum ends
	22) Students do corrections and submit Practicum Report and PRAK03 form to UUM's Supervisor	Student	Two weeks after the Practicum ends
	23) UUM's Supervisor complete the PRAK02 form and key-in final Practicum marks	UUM's Supervisor	

2

Project Scope

Students are generally allowed to do any related projects in Information Technology (IT). However, the project has to be proposed by the students and approved by the UUM's Supervisor. The UUM's Supervisor can discuss the project with the Organisation's Supervisor to determine the appropriate scope.

2.1   IT Project

Below is the suggested projects that can be conducted during the Practicum. However, projects are not limited to the list.

Project	Description
1 Application Development	
■ Web-based	■ Develop any web-based applications using server-side scripting (such as PHP or ASP), databases and HTML pages. ■ The application must be interactive and contain basic functions such as data entry, updating, generating reports, etc. ■ Examples: e-commerce website, online student registration system, web-based staff management system, and web portal. ■ Static pages which contain only HTML files **are not allowed.**
■ Web Services	■ Suitable for those with deep knowledge of web application technology such as UDDI. ■ Examples: Web service for the tourism industry, universities information web service
■ Client-server	
■ *Mobile/Wireless* application	

2	Information system planning	**ISP**: A study to propose an information system plan for the organisation/department Plan a new system or upgrade the current system.
3	Bioinformatic application	
4	High performance computing	Grid/cluster/parallel/distributed/real-time computing, simulation
5	Information system & network security	Focus on computer security: Planning, analysis, design, implementation, policy, audit, etc.
6	Computer system configuration	
7	Other relevant projects	With the approval from the Supervisors

Proposal Preparation

Students should prepare a proposal explaining the project to be conducted at the organisation. The proposal must be submitted to the UUM's Supervisor **TWO (2)** weeks after the students registered at the organisation.

3.1 Proposal Writing Guidelines

The proposal must be clear, concise, neat, and written in English. The maximum number of pages is 10, excluding attachments. The front page of the proposal is in Appendix A. Student needs to discuss with the Supervisors to determine the appropriate project. The project scope must be agreed upon by both Supervisors. The proposal should be signed by the student and approved by the Organisation's Supervisor (Refer to Appendix B).

3.2 Proposal Content

The proposal should consist of the following items:

Item	Description
1. Front page	Contains the title of the project and details of the student and Supervisor.
2. Table of Content	Contains the topic, sub-topic, and page number.
3. List of Figures	List any illustrations or figures (if more than 5 illustrations or figures)
4. Introduction	Explain goals, problem statement, objective, project scope and project significance precisely.
5. Project Planning	Discuss on:

- Methodology
- Feasibility study (including tools, software, cost, and Gantt chart)

6. Summary   Prepare a summary of the proposed project
7. References   Include all relevant references
8. Appendices   Include all attachments (if any)

Below is the main content of the proposal.

1.0 Introduction

1.1 Project background

1.2 Problem statement

1.3 Objective

1.4 Scope

1.5 Project significance

2.0 Project Planning

2.1 Methodology

2.2 Feasibility study

    2.2.1 Tools (examples: hardware, software, database, and etc.)

    2.2.2 Cost estimation

    2.2.3 Gantt chart

3.0 Summary

References
Appendices

3.3 Proposal Format

The proposal must be prepared and typed clearly. The writing format for the proposal must be standardised based on the format given.

a) Font Type and Size

Use *Times New Roman*.   Specifications include:

(i)   Font size 12 for the text, including the main topics. The main topics must be written in uppercase (capital letters) and should be bold.

(ii)   The font size for subtopics is also 12. Write the subtopics in title case and bold.
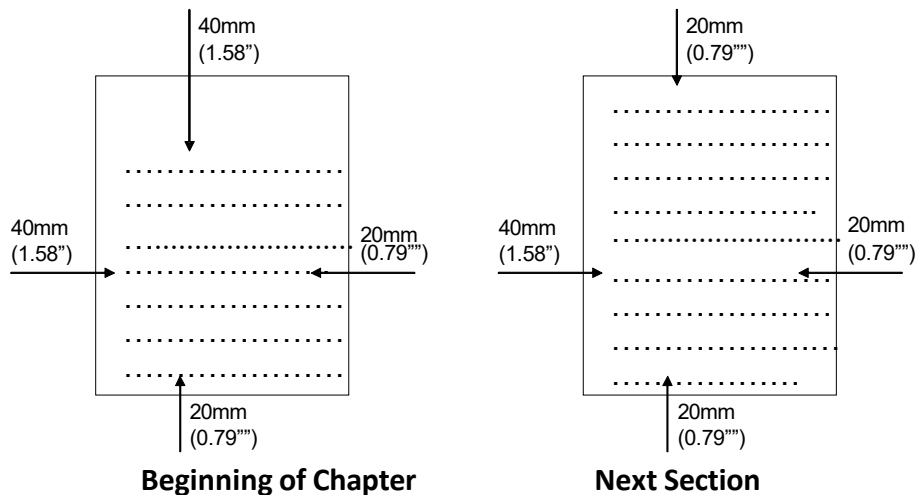

    Example:

1.0 MAIN TOPIC

1.1 Subtopic

1.1.1 More Sub-subtopics

(iii)   The font size for captions on tables and figures is 10.
(iv)   Use a word processor that can give you a standard typing format.
(v)   The usage of headers and footers is not allowed.

b)   Margin

The margin on the left-hand side of the proposal is 40mm (1.58") and 20mm (0.79") on the right, top and bottom sides, except for the beginning of the chapter, where the top margin must be at least 40mm (1.58").

| **Beginning of Chapter** | **Next Section** |

c)   Heading and Subheading

Use a consistent numbering format (refer to the example below). The position of the subtopics must align with the main topics (no indentation is needed).

Example:

1.0 MAIN TOPIC	… Level 1
1.1 Subtopic for 1.0	… Level 2
1.1.1 Proportion of Subtopic 1.1	… Level 3
a) Proportion for 1.1.1	… Level 4
i) Proportion for a)	… Level 5

Note: Please refer to the Technical Report Writing textbook or any academic writing books.

d)   Spacing

The proposal must be typed in single spacing.
The main section (chapter) must begin on a new page.

e)   Paging

(i)   Page numbers must be continuously counted. It should be without any brackets, hyphens or other decorations.

(ii)   Page numbers before the first chapter of the proposal must be written using small Roman numbers. No numbering is needed for the Title Page.

(iii) The page numbering starts from the first page of the first chapter of the proposal.

f)   Table and Figure

Tables should be labelled in sequence according to the chapter/section in the proposal and written in the title case. The caption for a table is written at the top of the table. The format is as follows:

Table <Chap>.<Table No>: <Name/Table Topic>

Example :

Table 1.1: Tabulation of Computer Users in Malaysia's Northern States

	Perlis	Kedah	Penang
1995	1000	1200	2971
1996	1500	1800	3654
1997	1572	1890	3985
1998	1602	1906	4576
1999	1680	1950	4867
2000	1750	2103	6514
2001	1890	2500	7514
2002	1990	2530	8245
2003	2504	2641	9987

Based on the above example, the caption for the table begins with **"Table 1.1"**, which shows that the table is the **first** table in Chapter **1**.

The same goes for figures, except that the caption for a figure is written at the bottom of the figure. The format is as follows:

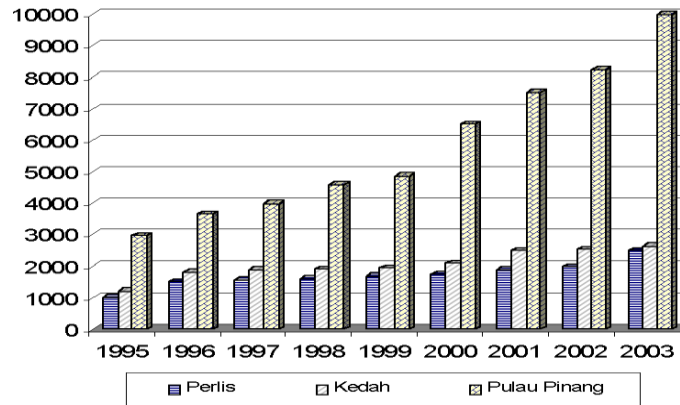**Figure <Chap>.<Figure No>: <Name/Figure Topic>**

Example:

Figure 1.2: Availability of Computers in Malaysia's Northern States

Based on the above example, the caption for the figure begins with "**Figure 1.2**", which shows that the figure is the **second** figure in Chapter **1**.

3.3.1 In-text Citations and References Format

In-text citations and references must be formatted using The IEEE style or The American Psychological Association (APA) 7th Edition. Please refer to the following's websites for further information:

The IEEE Style
http://journals.ieeeauthorcenter.ieee.org/wp-content/uploads/sites/7/IEEE-Editorial-Style-Manual-for-Authors.pdf

The American Psychological Association (APA) 7th Edition
http://www.apastyle.org
https://uum-my.libguides.com/c.php?g=933116

3.4 Proposal Submission Procedure

Completed and approved proposal endorsed by the Organisation's Supervisor should be submitted to the UUM's Supervisor. The final date to submit the proposal is on the 14th day, **TWO (2) weeks** after the Practicum begins.

Practicum Report Format

The Practicum Report must follow the format and content described on pages 19 to 24. **The confidential information of the organisation MUST NOT be included in the report. Always seek advice from the Organisation's Supervisor on the permitted information to be shared in the report. The organisation's representative MUST sign the consent for publication form, as shown on page 24. The signed consent for publication form must be scanned and placed on the LAST PAGE of the Practicum Report.**

The softcopy of the Practicum Report template is available at https://studentuumedu-my.sharepoint.com/:w:/g/personal/maslinda_staf_uum_edu_my/EYrPdEpGm1VNiUXMp4yxTo4BOwukCGVq248tcgbDyuPFOw?e=X60maY

Practicum Report Format and Content
The report should be prepared in 10 to 15 pages excluding appendixes. Maximum pages of the report, including appendixes, should not exceed 30 pages. The page size MUST be set to A4 on Layout -"Page Setup". Set the document's margin to 1" for the top, bottom, left, and right margins. Students should use Times New Roman, 11 points, throughout the report. The text should be typed in one column and double spacing. The first line of a new paragraph should be indented by 0.25".

Section Heading and Sub-Section Heads Format
Throughout the report, the Section Heading, Primary Heading or First-Level heading should be centred, bold-faced, and capitalised using 11-point Times New Roman. The sub-section heads or secondary headings or second-level headings should be bold-faced, 11-point in upper and lower case. For subsection heads, a word like "the" or "a" is not capitalised unless it is the first word of the header.
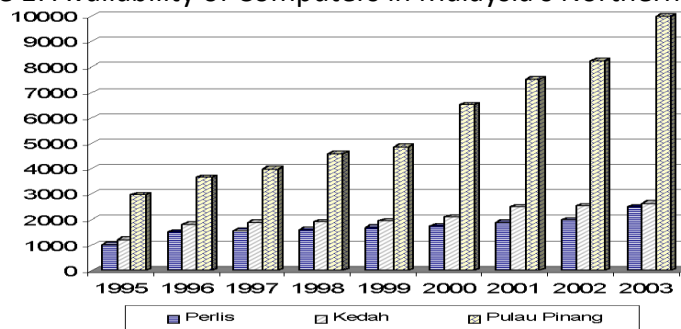
Table and Figure Format
Number tables consecutively and use table numbers when referencing a table (Table 1, Table 2, 3...). Use uppercase and lowercase letters for the title of the tables. The table caption must briefly explain the contents of the table. See Table 1 for an example.

Table 1: Tabulation of Computer Users in Malaysia's Northern States

	Perlis	Kedah	Penang
1995	1000	1200	2971
1996	1500	1800	3654
1997	1572	1890	3985
1998	1602	1906	4576
1999	1680	1950	4867
2000	1750	2103	6514
2001	1890	2500	7514
2002	1990	2530	8245
2003	2504	2641	9987

Number figures consecutively (Figure 1, Figure 2, 3...). Place and label figure captions below each figure in sentence case letters. Use appropriate colours or shades for the chart. See Figure 1 for an example.

Figure 1: Availability of Computers in Malaysia's Northern States

In-text Citations and References Format
In-text citations and references must be formatted using the **American Psychological Association (APA) 7th Edition**. The author-date (name, date) method of in-text citation must be used. For example, (Ting, 2020). References, only of works cited, should be listed in full at the end of the paper and arranged alphabetically.

Practicum Report Content
The report content should consist of five main sections: i) Introduction, ii) Method, iii) The Proposed Design and Implementation, iv) Evaluation and Results, v) Discussion, and vi) Conclusion and Future Work.

Acknowledgement and Disclaimer sections MUST also be included in the report. **The Disclaimer section must be written the same way as the statement on page 23 to claim the validity and copyright of the report contents. The student's name and matric number must be written in the space provided.**

An Appendix should be attached at the end of the report. The following sections provide more information about each section of the report's content. Students ought to follow the heading examples in the following sections for the content of their report.

Full project title
(Times New Roman, Bold-face, 12-point, and Center)

[*1]Student name, [2]UUM Supervisor name & [3]Organisation Supervisor name

[1,2]School of Computing, Universiti Utara Malaysia

[3]ABC Sdn. Bhd.

[*1]xxx@gmail.com

[2]yyy@uum.edu.my

[3]zzz@gmail.com

ABSTRACT

The report's abstract should contain 250-300 words in one paragraph and summarise the background of the project, the problem that the project intends to address, and the project's objective. It also contains the methods used, the project's outcomes, conclusions, and recommendations for the project's enhancement. The abstract should not include any references, abbreviations, or acronyms.

Keywords: list at least three keywords alphabetically, separated by commas.

INTRODUCTION

This section should provide a detailed explanation of the project description. It should include the project background, the problem that the project intends to address, objectives, and scope. The significance of the project must also be explained in this section.

METHOD

The Method section should explain how the project was conducted. The chosen method must be suitable for the project scope. Each method phase needs to be explained in detail. For example, if Rapid Application Development (RAD) is used, explain the phases accordingly.

THE PROPOSED DESIGN AND IMPLEMENTATION

This section should include the project's flow chart, use case, or another relevant diagram permitted by the organisation. This section should also include a description of the user interface and screen captures approved by the organisation to be shared. However, if the user interface and screen capture do not apply to the practicum assignments, describe the assignments with a relevant diagram.

EVALUATION AND RESULTS

This section should demonstrate an analysis of the evaluation made on the proposed design, like usability evaluation, performance evaluation, etc. However, suppose the practicum assignments are unrelated to project development, coding and testing. In that case, the analysis of the results of the assignments should be discussed in detail in this section (approved by the organisation to be shared).

DISCUSSION

The discussion should revisit the problems and the objectives stated in the Introduction. It also provides readers with take away from the proposed project.

CONCLUSION AND FUTURE WORK

This section must state clearly and concisely the project's strengths, weaknesses, and recommendations for improvement.

ACKNOWLEDGEMENT

The acknowledgement to all parties (individuals or organisations) who assist in the project implementation. The acknowledgement should be brief and concise.

DISCLAIMER (STIX3912 PRACTICUM)

I am responsible for the accuracy of all opinions, technical comments, factual reports, data, figures, illustrations, and photographs highlighted in this report. I bear full responsibility that the report submitted has been reviewed and is subject to copyright and ownership rights. Universiti Utara Malaysia will not bear any liability for the accuracy of any comment, report and other technical and factual information and the copyright or ownership rights claim [student name, matric number].

REFERENCES

Magano, J., Silva, C., Figueiredo, C., Vitória, A., Nogueira, T., & Pimenta Dinis, M. A. (2020). Generation Z: Fitting project management soft skills competencies—A mixed-method approach. *Education Sciences*, 10(7), 187.

Rumeser, D., & Emsley, M. (2019). Can serious games improve project management decision-making under complexity? *Project Management Journal*, 50(1), 23-39. https://doi.org/10.1177/8756972818808982

Sommerville, I. (2020). *Engineering software products*. London: Pearson.

APPENDIX

The following is the breakdown of the Appendix:
   A. Organisation background.
   B. The Online Logbook description, URL, and screen capture of the first page (endorsed by the organisation to be publicly available online).
   C. The URL of the system, if it is publicly available online and approved by the organisation to be shared.
   D. Additional screen capture of the system, if permitted by the organisation to be shared.
   E. Additional related diagrams, if permitted by the organisation to be shared.
   F. Other tasks or projects throughout the practicum.
   G. Reflection on practicum journey.
   H. Consent for publication of the Practicum Report by the organisation.

CONSENT FOR PUBLICATION

I hereby <u>provide consent / do not consent</u> for the publication of the Practicum Report detailed above. I understand that the text and any figures or tables published in the article will be freely available online and accessible to the general public. I understand that under the terms of publication, this information may be reproduced and used for other purposes, including commercial uses. I acknowledge that this will reduce the organisation's privacy to the extent of the report's content. I confirm that I have been given the opportunity to read and provide feedback on the Practicum Report.

Name of the organisation's representative:

Position:

Organisation:

Signature and official stamp:

Date:

Bibliography

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https://apastyle.apa.org/style-grammar-guidelines/references/examples

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Pusat Praktikum

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Front Page Format of the Proposal

Pusat Pengajian Pengkomputeran

SCHOOL OF COMPUTING

Universiti Utara Malaysia

**COLLEGE OF ARTS AND SCIENCES
UNIVERSITI UTARA MALAYSIA**

**PRACTICUM STIX3998
SEMESTER II SESSION 2012/2013 (A122)**

PROPOSAL

Title: _____
_____
_____
_____
_____

STUDENT
Matric No.   : _____
Name   : _____
Email   : _____
Mobile   : _____

ORGANIZATION
Name   : _____
Address   : _____

SUPERVISOR (ORGANIZATION)
Name   : _____
Telephone   : _____
Fax   : _____

B

Last Page Format of the Proposal

Prepared by:

Student's Signature: Date: _____

(   )

Endorsed by:

Organization's Supervisor Signature: Date: _____

(   )

Company's Stamp: