

**IT7x22 - Assignment One**

**Due dates:**

**Presentation:** (Week 5) 9 - 12 pm Monday 20th August

**Research report:** (Week 5) 5:00 pm Monday 20th August

**Research Report & Presentation**

**Semester 2, 2018**

**School of Information Technology**

**Overview:**

Each student is required to work on a research project for this assignment, conducting research into a topic and literature review on an advanced narrow topic in C# or .Net development.

The literature review should cover both general background for a specific technology that represents the current research on the selected topic. Estimated length of your final report will be 5-7 pages or 2000 – 2500 words. You must use at least 3 journals (from IEEE or ACM journals or conference papers) related to the selected topic.

Each student will also need to give a presentation (10 – 15 minutes) to the entire class to present your findings and summary of your research project:

The presentation serves two purposes:

1) To allow other students in the class to learn about the topic being reviewed.

2) To allow the instructor to evaluate how well a student does in the research project.

**Some specific requirements and guidance:**

It is important for your review to cover the state of the art of the selected narrow topic. To ensure your review is about “current” research, it is required that the main papers that you use and review are published in the recent 5 to 7 years.

This is an advanced class and needs research “depth” in your review. Do not spend all your review on the general introduction of the selected topic; your research should have a balanced coverage between general introduction and specific methods/technologies.

*Your review of the selected papers should be coherently integrated. It works against your scores if your review simply covers several disjoined aspects of a topic.* We will have a preview of all the research topics (**Monday 30th July**). In the preview, each student needs to give an overview description of its topic (in about 2 minutes) and show the list of references to the class. These should also be available from course forum on Moodle.

It is encouraged to review theories, methodologies, and practices of C# and .Net development related to emerging applications in recent years. Below are some suggested topics. You are also welcome to discuss/confirm another topic for research with your tutor:

|  |  |
| --- | --- |
| [Data Mining](https://www.c-sharpcorner.com/technologies/data-mining) in .Net framework | Test-Driven Development in C# |
| ASP.NET Core | Internet of Things (IoT) and .NET |
| Interfaces in C# | Mobile  App Development in .Net |
| Code Quality and Standards. Net | .Net Cloud Platform & development environment |
| Virtual Reality & Augmented Reality .Net | Generics & Collections in C# |
| Windows Presentation Foundation | .Net Testing tools and frameworks |
| Game Development in .Net | Machine Learning in .NET |
| Artificial intelligence programming in .Net | Function point Analysis ( Estimating Cost and Effort For a software Project) |

**Important: Sequence your report and reviewing of the review structure**

Your research will not only synthesise the literature, but it must present the literature in a logical sequence or order. Your aim is to indicate to the reader an understanding of the problem under investigation. However you organise it, your review should highlight important aspects of the literature. The main attribute of a good literature review is that it is well structured.

Before you emulate what you have read, be aware that plagiarism extends to copying the structure of others' work, so please acknowledge any influences appropriately. The information in the literature review is synthesised, or brought together to form a cohesive whole. Those who read the review should clearly understand the reasons for selecting your research area or question, its relationship to past work, and the central procedures that have been employed by past investigations. In addition, they should know the weaknesses of past studies and how your research contributes to this field in the advancement of knowledge.

**Suggested structure for this research report:**

**Abstract**:

* A summary of your research project: Describes the content and scope of the project and identifies the project’s objective, its methodology and its findings and conclusions.

**Introduction**

* Introduction of your report
* Background information
* Clarification of the purpose of study
* Research question or general hypotheses to be tested

**Methodology**

* Methodologies you use to underpin your work and methods you use in order to collect data for this study.

**Literature review**

* A review of the past and present literature in relation to your research purpose
* relevant literature specific to the study

**Summary /conclusion**

* relevant to the content
  + Summary of what has been written about in the literature review.
  + It should not be a repetition of the entire contents of the literature review, but rather an account of current state of knowledge on your topic in the study. In addition, there should be a sense that you have explained the background to your study that endorses the decision you have made to study your topic

**References**

* + materials from other sources are clearly referenced

**Marking Guide**

**Content – 55 Marks**

Stating, motivating, and relevant content to research question

* Statement of a specific, focused research question in the introduction
* Commentary on why this question is interesting/useful/important

Review of other papers

* Paper selected is relevant to the identified research question
* There are clear and relevant transitions between parts of the review.
* Sufficient, concise, and accurate information about the paper content, such that readers can understand what was done (or not done) and how the paper relates to your argument

**Organisation and presentation - 25 Marks**

Introduction and conclusion

* Introduction & conclusion must be clearly relevant to the content

Structure and organisation of assignment

* There is an informative title and informative headings to help structure document
* Background information is relevant, concise, and located near start of document

General presentation and professionalism

* Assignment is of appropriate length
* Spelling, grammar and English usage are of sufficient quality as not to obstruct reader's understanding of the content
* General appearance of document is neat, organised, and professional

Referencing

* Any quotes or materials from other sources are clearly referenced.
* All in-text references appear on the end references list (and vice versa).

**Class Presentation – 20**

* Delivery: speed, clarity, audibility, tone
* Content: sets out relevant issues, explains key terms, confident with material,
* Structure: logical, easy to follow, each section relates to overall purpose
* Use of visual aids : uses handout or other visual aids, relevant to content
* Response to questions: willing to answer questions, actively seeks questions