I.BA_IOT.H24: Final Report Guidelines & Template

September 19, 2024

Insert your Final Report Title Here

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Deadline for Final Report Submission: The Final Report is due on GitLab on Thursday, December 19, 2024. This is a firm deadline and there is no further extension.

Note: Completing all sections below will not guarantee you a certain grade. We are providing this to help you structure your report and guide you as you finish up your projects. The Final Report should convince the reviewer of the quality of your work. The report must be clearly written. Feel free to adjust the specific sections according to your needs. When you submit your Final Report, it must me in PDF format. We look forward to reading about your exciting project!

1. Abstract [~1 paragraph]

This section should consist of 1 paragraph consisting of a brief summary of your work, including motivation of your work, high-level description of your work, technologies you used, and results obtained.

2. Introduction [~0.5 page]

This section should explain the problem you want to solve and why it is important. Discuss your motivation for pursuing this problem. Capture the different approach(es) to solving the problem and discuss which of these approaches you have picked and why. Continue with explaining your approach. Clearly state what is the output of your work. This should make it clear that you know your area and what you have done. This section should also give some background information on the topic if necessary or a brief comment leading into the subject matter.

3. Related Work [~0.5 page]

The use of good references tells that you are aware of the latest developments in the field. You should find existing papers, group them into categories based on their approaches, and discuss their strengths and weaknesses, as well as how they are similar to and differ from your work. Which approaches were good? Search engine tools such as Google Scholar (https://scholar.google.com) is very useful for this. Refer to all references you mentioned in your Final Report and comment briefly on each.

4. System Design and Implementation [~2-3 pages]

First and foremost is the technical quality of your work. Every project should have a technical aspect, be innovative, and must fit into the topics of the "Internet of Things" class. Highlight the innovation in your report. Innovation can include, for example, the following: implementation of a new system approach, use of a new technology, a new application.

This section can be broken down in further subsections, depending on the nature of the work. Describe your system design and implementation, system overview, proposed system and software architecture, system design, techniques / methodologies. Include figures / diagrams as needed.

4.1 System Overview [~0.5 page]

This section describes the architectural overview of your approach, and how it interfaces with different parts of the system. Explain how your approach work. Use figure(s) or diagram(s) to show your approach, as needed.

Figure 1: <Figure/Diagram Name>

4.2 System Architecture [~0.5 page]

This section describes the system architecture. Explain your approach system software architecture, modularity. Motivate the design choices. Use figure(s) or diagram(s) to show your approach, as needed.

Figure 2: <Figure/Diagram Name>

4.3 Software Architecture Layers & Modules [~1 page]

This section describes the system layers and modules overview. Explain your approach system modules functionality, interfaces / APIs. Use figure(s) or diagram(s) to show your approach, as needed.

Figure 3: <Figure/Diagram Name>

Main Application – Public Interfaces	
Interface	**Description**
Provides	
Interface1()	Reads the application configuration parameters…
Interface2()	Updates the configuration parameters…
Interface3()	Executes task…
Uses	
Module1	Used for transmitting/receiving the data to/from the IoT device…
Module2	Used for transmitting/receiving the data to/from the gateway…

Table 1: <Main Application Interfaces>

4.4 System Implementation / Functional Software Architecture [~1 page]

This section describes the system implementation, major operations and how each component contributes to the functioning of the whole system. It also identifies high level functions of each components and logical grouping of functionality from each operation.

Figure 4: <Figure/Diagram Name>

5. Evaluation/Experiments/Results/Discussion [~1-2 page]

This section describes what are the results obtained, what results do you want to communicate. You should evaluate the performance of your approach. Show evaluation results. You should give details about what parameters you chose. If needed, summarize results in a table format. Describe the experimental methodology. Compare your results with those of others. Make sure to discuss the figures/tables in your main text throughout this section. Your graphic plots should include axis labels, legends, have font sizes that are readable when printed.

6. Application(s) [~0.5 page]

This section describes the application / related scenarios that motivates your approach. Describe the application(s) of your system approach in the implementation of the corresponding scenario.

7. Conclusion [~1-2 paragraphs]

Summarize your project Final Report, highlight the results of your work, reiterate key points, list all important evaluation results. Be explicit and concrete. If you had more time, more team members, or more IoT platforms / computing resources, what would you explore for future work?

All sections above should fit on seven (7) pages. The exception is the sections below including the contributions / acknowledgements of each team member, project major milestones and deliverables, and references / biography.

8. Contributions / Acknowledgments [~1 paragraph]

Describe what each team member worked on and contributed to the project. This is to make sure that team members are carrying a fair share of the work for the projects. If you have any concerns working with any of your projects team members, please inform Prof. Dr. Angela Nicoara and give any comments on your experience working with your project partners. If you did this work in collaboration with someone else, or somebody else (e.g., another professor) has advised you on this work, your report must acknowledge their contributions.

9. Major Milestones & Deliverables [~1 page]

To help you organize better, avoid sleepless nights, make sure you are on track, and monitor what you have accomplished so far, project planning milestones and deliverables are needed and very helpful.

9.1 Team and Roles [~0.25 page]

This section describes the team, members roles, and what work packages are working on.

TEAM	PROJECT WORK PACKAGES	OWNER
TEAM <NAME>	Work Package 1	
	Work Package 2	
	Work Package 3	
	Work Package 4	

9.2 Project Planning, Timelines, Milestones & Deliverables [~0.75 page]

This section describes the project planning, timelines, project milestones and deliverables including the names of your team members responsible.

10. References / Biography [No page limit]

This section should include citations for any articles / references mentioned in the Related Work section. We are excluding the references from the page limit to encourage students to perform a thorough literature review / related work section without being restricted if they would like to include more citations.

[1] FirstName Surname: Article Title. In: Proceeding of the ACM/IEEE Conference Name, City, State, Country, Year.
[2] FirstName Surname: The title of book, Publisher Name, City, State, Country, Year.
[3] FirstName Surname: Article Title: https://www.acm.org/publications/article.