UiT
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Peer Observations of Observation Units

Subtitle

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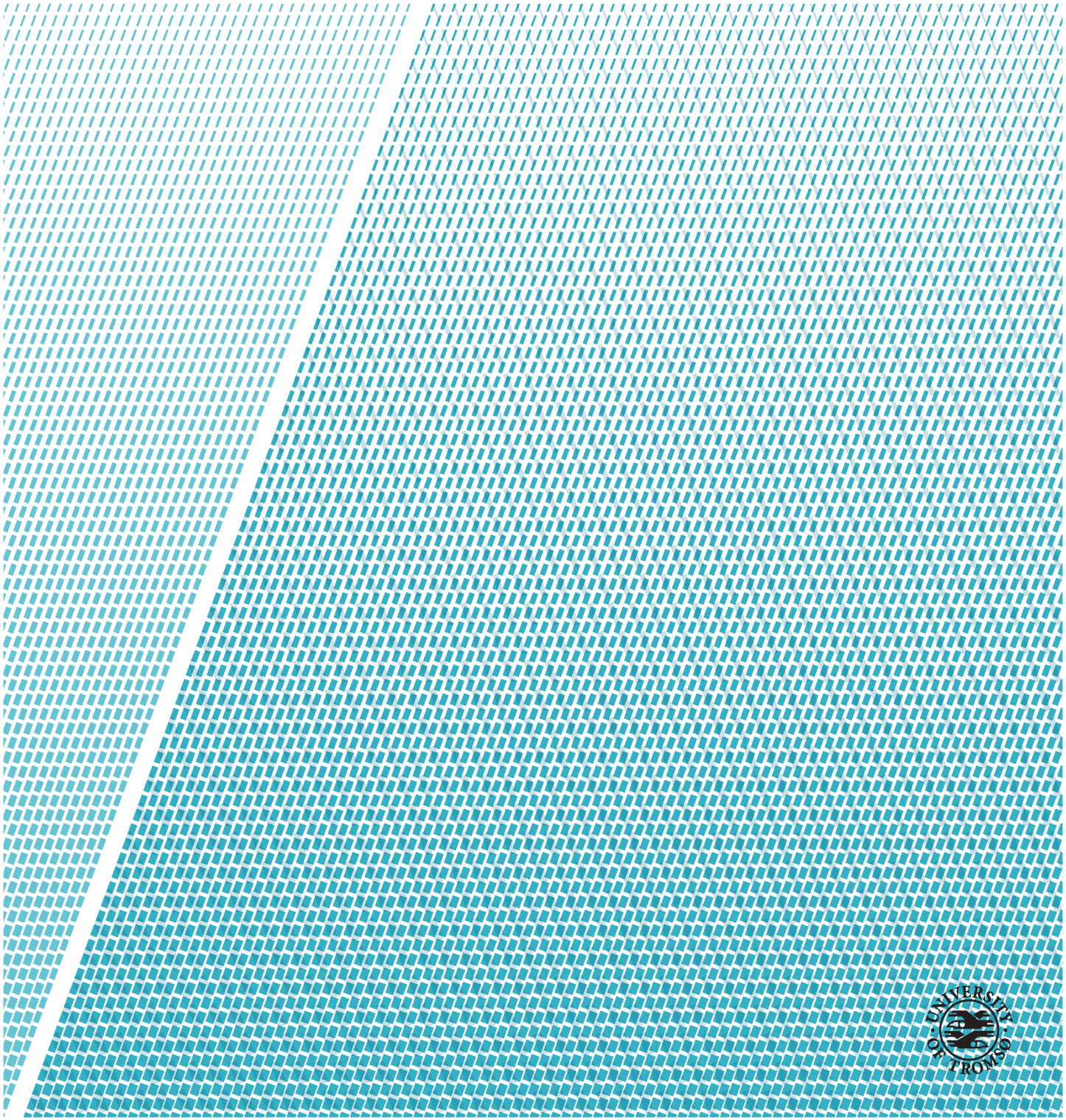

“Simplicity is prerequisite for reliability.”
–Edsger Dijkstra

“Beware of bugs in the above code;
I have only proved it correct, not tried it.”
–Donald Knuth

Abstract

What is wrong with the world? Motivation 1-3 sentences, Arch, Des, Imp, Exp 1,2-3 sentences, results and main conclusion.

Acknowledgements

Contents

My list of definitions

1 Introduction

FRA CAPSTONE: The Arctic tundra in the far northern hemisphere is challenged by climate changes in the world today and is one of the ecosystems that are most affected by these changes [10]. The Climate-ecological Observatory for Arctic Tundra - COAT is a long-term research project developed by five Fram Center[1] institutions. Their goal is to create robust observation systems which enable documentation and understanding of climate change impacts on the Arctic tundra ecosystems. COAT was in autumn 2015 granted substantial funding to establish research infrastructure which allowed them to start up a research infrastructure during 2016-2020 [10].

This thesis presents the architecture, design and implementation of a peer observation that can observe and accumulate data from in-situ observation units.

1.1 Motivation

The motivation behind this project is...

This project will develop an approach to

- Let observation units observe data observed by observation units.

1. `http://www.framsenteret.no/english`

- To gradually accumulate the data to observation units being a DAO Store (there can be multiple DAO Stores depending on user needs).

- Do a prototype of such a system focused on three levels of observation units: (i) In-situ observation units being (ii) observed by back-end observation units, being (iii) observed by a DAO Store observation unit.

The purpose is to fetch and accumulate data observed by observation units for further use.

The observation units to be used for the prototype comprises Observation Unit Processes executing on PCs and/or Raspberry Pi.

1.2 Contributions

The dissertation makes the following contributions:

- A

- B

1.3 Assumptions

Avgrense viktig!

1.4 Limitations

Avgrense viktig!

1.5 Outline

This thesis is structured into X chapters including the introduction.

Chapter 2 describes ..

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

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Related Work

- Disconnected Operations in the Coda File System
- Satyanarayanan eller Satya..
- Energy-efficient communication protocol for wireless microsensor networks - LEACH (2000)
- Ad-hoc on-demand distance vector routing (1999)
- Søk etter: sensor networks, sensor net wireless, multipath, leaders, overlay network, overlay, content delivery (CDN)

3

The Data Set/Background stuff..

4

Architecture

Tell it clean/neat. Abstractions, functionalities

/5 Design

Server, p2p, protocols..

6

Implementation

Threads, data structures, language

This chapter will elaborate on how we implemented the system, general implementation requirements, issues and choices.

The system is implemented in the open source programming language GO 1.9.3[1].

1. https://golang.org/

7 Evaluation

This chapter describes the experimental setup and metrics used to evaluate the implemented system.

7.1 Experimental Setup

All experiements were done on a Lenovo ThinkCenter with the following specifications:

- Intel® CoreTM i5-6400T CPU @ 2.20GHz × 4
- Intel® HD Graphics 530 (Skylake GT2)
- 15,6 GiB memory and 503 GB disk
- Ubuntu 17.04 64-bit with gcc V6.3.0 compiler and GO 1.9.3

7.2 Experimental Design

How did we do the experiments?

7.3 Results

What does the results say?

7.3.1 Result 1

8

Discussion

Idea, arch, design, resutls, other solutions, "arch has scale issue"..

This chapter discusses our approach, experience, how we solved the problem and why we chose the solution we ended up with...

9

Conclusion

In this thesis, we have implemented a system/prototype...

Our experiments showed that the system ...

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Future Work

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Appendix

Bibliography