Project descriptions

A summary of development projects, both in college and private

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Contents

1 Introduction

This document lists all the development projects I have been a part of, starting from my Bachelors degree until my completed Masters degree in Applied Computer Science. Each section is dedicated to a given programming language, the exceptions are the two last sections, Section 6 and 7. Projects uploaded to GitHub will also contain a link to its given repository, but group projects is not listed. For all projects, there will be a listing for project type (Assignment or Private), IDE, Editor, Tools and Programming language(s) that were used. Development projects from courses will also include the College/University, the Level (Bachelor or Master) and the Course it belongs to.

Repository: https://github.com/klAndersen?tab=repositories

2 Visual Studio: C#

2.1 Real-estate registration

- Level: Bachelor

- Project type: Assignment

- College/University: Buskerud University College

- Course: INF313 Management of Databases

- IDE, Editor, Tools:

- Oracle-Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Databases/INF%20315%20-%20Oracle/Oblig1

- C#-Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%23/Oblig%20Inf315

2.2 Bachelor Thesis: CleanMyFolder

- Level: Bachelor

- College/University: Buskerud University College

- Course: INF350 Bachelor Thesis

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%23/Bachelor%20thesis

2.3 ITE1605 Computer Graphics

- Level: Bachelor

- College/University: Narvik University College

- Programming language(s): C#/XNA

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/XNA/Datamaskingrafikk

2.3.1 Graded Assignment: Car game

Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/XNA/Datamaskingrafikk/Karaktergivende%20oppgave

2.4 Model Train registration

Project type: Private
Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%23/ModellTog

2.5   Multipurpose editor

- Project type: Private

- IDE, Editor, Tools:

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%23/MultiPurpose

3 Visual Studio: C++

3.1 ITE1546 Programming C++

- Level: Bachelor

- Project type: Assignments

- College/University: Narvik University College

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%2B%2B/ITE1546%20Programmering%20i%20C%2B%2B

3.1.1 Graded assignment: recipeProgram

Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/C%2B%2B/ITE1546%20Programmering%20i%20C%2B%2B/Karaktergivende

3.2 Machine Learning library

- Level: Master

- Project type: Developed for re-usability in assignments

- College/University: Gjøvik University College

- Course: IMT4612 Machine Learning and Pattern Recognition 1

- Repository: https://github.com/klAndersen/Machine-Learning/tree/master/MachineLearning

3.3 IMT4641 Computational Forensics

- Level: Master

- Project type: Assignment

- College/University: Gjøvik University College

- IDE, Editor, Tools: Visual Studio, SQLite

- Repository: https://github.com/klAndersen/IMT4641-Computational-Forensics

4 Java and Android

4.1 Animal Registration

- Level: Bachelor

- Project type: Assignment

- College/University: Buskerud University College

- Course: INF240 and INF244 Object Oriented Programming

- IDE, Editor, Tools: Eclipse

- Programming language(s): Java

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Java/Oblig2_Inf240_KnutLucasAndersen

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Java/Oblig_Inf244_KnutLucasAndersen

In the two Java courses in my Bachelor, we had the same assignment, but with different requirements. The main focus was to register two different animals (hares and lynx). Common for both was the registration of their gender (male/female), length (Double), weight (Double), time of capture (day, month, year) and location (String). The ID was to be incremented, and start with the initial for the given animal (e.g. L1, L2, ..., H1, H2, ...). For the hares, colour (String) and type (Char) was to be registered. For the lynx, the length of their ears (Double).

If an animal was later re-captured, their data should be updated instead of re-registered. The program had the possibility to search for animals based on ID, show amounts of re-captures (based on the entered year), show amount of different hare captures (based on type), and an unsorted report of all first-time captures.

The first course was introductory level, so input/output was shown in command line, and data was stored in a text file. In the second course, the user was presented with a GUI that we had to code ourselves (not use a Designer), and the data was stored in a MySQL Database (using JDBC as database driver). Singleton was used to ensure that there was only one object maintaing the database connection. The main menu used JFrame, and the child windows used JDialog.

4.2 ITE1621 Applications for mobile and web

- Level: Bachelor

- Project type: Assignment

- College/University: Narvik University College

- IDE, Editor, Tools: Eclipse

- Programming language(s): Java, Android, XML

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Android/ITE1621%20Applikasjoner%20for%20mobil%20og%20web

4.2.1 TracknHide

Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Android/ITE1621%20Applikasjoner%20for%20mobil%20og%20web/Karaktergivende%20oppgave

4.3 TrackMyTeacher

- Level: Master

- Project type: Assignment

- College/University: NTNU

- Course: IMT5401 Advanced Course in Mobile Technology

- IDE, Editor, Tools: Android Studio, MySQL Workbench

- Programming language(s): Android, XML

- Repository: https://github.com/klAndersen/IMT5401-Mobile-Research

4.4 BeregnSnitt

- Project type: Private

- IDE, Editor, Tools: Eclipse

- Programming language(s): Java

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Java/beregnSnitt

4.5 Auto-reply for Android

- Project type: Private

- IDE, Editor, Tools: Eclipse, Android Studio

- Programming language(s): Java, Android, XML

5 Python

5.1 IMT4112 Global Software Development

- Level: Master
- Project type: Group, Assignment
- College/University: NTNU
- IDE, Editor, Tools: PyCharm, Arch Linux (OS)
- Programming language(s): Python

5.2 IMT5251 Advanced Project Work

- Level: Master
- College/University: NTNU
- IDE, Editor, Tools: PyCharm, Arch Linux (OS)
- Programming language(s): Python
- Repository: https://github.com/klAndersen/IMT5251_AdvProjWork

5.3 Master thesis: Predicting coding question quality

- Level: Master
- College/University: NTNU
- Course: IMT4904 Master Thesis
- IDE, Editor, Tools: PyCharm, Arch Linux (OS)
- Programming language(s): Python 2.7, Python 3.4 (submitted version)
- Repository: https://github.com/klAndersen/IMT4904_MasterThesis_Code

6 Web development

6.1 Alumni Community

- Level: Bachelor

- Project type: Assignment

- College/University: Buskerud University College

- Course:

- IDE, Editor, Tools:

- Programming language(s):

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Web%20Development/Inf%20268%20Utviklingsprosjekt

developed from scratch, without use of external frameworks or libraries. The goal was to develop an alumni community web page for the college. A requirement was that the delivered solution should include HTML, CSS3, JavaScript and PHP. For storing data, MySQL was selected as database. To have a local server running, Apache XAMPP was used. It was also a requirement that the pages should look as identical as possible regardless of the web browser that was used (I compared Chrome, Internet Explorer, Opera and Firefox). The course was split into two semesters, and the development project into five parts: 1. Web page design/layout and policy 2. Access Control 3. Functionality and database model 4. Posts and user administration 5. Completion Users were to be divided into user groups; registered, moderator and administrator. Adminstrators was able to appoint new moderators and edit users, with the same rights as moderators. All registered users should be able to... • ...register, login, update their profile and be able to change/request a new password (if forgotten). • ... upload a profile picture, or select one of the existing ones that had previously been uploaded to the alumni page. • ... join or leave networks created within the alumni community. Users should be able to message each other, and also see a notification when new messages has arrived. • ... see a list of the other registered users. Moderators should be able to... • ...edit users profile (e.g. if inappropriate data was entered on their profile). • ...notify users they had breached the guidelines or block out/quarantine users (users was not to be deleted). • ...create/edit/delete existing topic fields (e.g. events, area of expertise, etc). In my project I mostly used PHP and HTML. Every page was created as a .php, as this allowed me to update the page layout in just one file, instead of having to update all the pages. The layout was then included at the location where it was to be used. It also simplified the use of function calls and checks to see if a user was logged in, and had the proper rights to view a given page. Database access was also handled via php, and JavaScript was not largely used (mostly to verify user input). The following is a short summary of what the delivered version included. For new users, they had a registration form, that gave feedback both with JavaScript and PHP if an error occurred. If the user continued, even though one or more fields contained errors, the given field(s) would have a text marked in red next to it, explaining what

was wrong. Users also got their own profile, which allowed them to update their information, alongside changing their password (users that weren't logged in could request a new password if they forgot it). Moderators also had the ability to edit user profiles, e.g. if any added something in-appropriate. Users could also send messages to each other, and to ensure that the users would see if they had received a new message, the link to the messages in the navigation bar was updated with a number, indicating how many new, unread messages they had received. Users could message each other via their profile, or by searching for them from the member list (which listed all, or thosematching the search critera; name or e-mail). Users who broke the page policy could be put in quarantine. This rejected the users attempt to login, and giving them a message that they were quarantined. An information message could also be set, that would explain to the given user why they were quarantined. Moderators could register campus, area of expertise and networks (e.g. degree, courses, etc). Moderators could also create events. All of the aforementioned could be updated or deleted. For events, only those active were displayed (but administrators and moderators could see all on the creation page). Events that were out of date was not showed, and this was also true for future events (based on start date for the given event).

6.2 Flea Market

- Level: Bachelor

- Project type: Assignment

- College/University: Buskerud University College

- Course:

- IDE, Editor, Tools:

- Programming language(s):

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/Web%20Development/Inf%20329%20XML%20-%20Oblig.%20oppg

6.3 IMT4003 Applied Computer Science Project

- Level: Master

- Project type: Group, Assignment

- College/University: NTNU

- IDE, Editor, Tools:

- Programming language(s):

6.4 IMT4004 Integration Project

- Level: Master

- Project type: Assignment

- College/University: NTNU

- IDE, Editor, Tools:

- Programming language(s):

- Repository: https://github.com/klAndersen/IMT4004-Integration-Project

7 Others

Suggestions for sections:

- databases
- udk/unreal
- INF340 Information Systems in Business
- ITE1607 Game Design
- IMT4006 Intro to research on Web technologies
- IMT4032 Usability and Human Factors in Interaction Design
- IMT4072 Cross-media color reproduction
- IMT4122 Software Security Trends
- IMT4612 Machine Learning and Pattern Recognition 1: assignments
- anything else...?

7.1 Teacher-Student questionnaire system

- Level: Bachelor
- Project type: Group, Assignment
- College/University: Buskerud University College
- Course: INF116 Object Oriented Programming
- IDE, Editor, Tools: Visual Studio, MySQL Workbench
- Programming language(s): Visual Studio/.NET Visual Basic (VB)

7.2 INF165 System Developing Project

- Level: Bachelor
- Project type: Group, Assignment
- College/University: Buskerud University College
- IDE, Editor, Tools: Microsoft Access, MySQL Workbench

7.3 INF330 Flash Programming

- Level: Bachelor
- Project type: Group, Assignment
- College/University: Buskerud University College
- IDE, Editor, Tools: Adobe Flash CS 4, FlashDevelop
- Programming language(s): Flash, ActionScript 3.0

7.3.1 Space Invaders

-details-

7.3.2 Tower of Knowlegde

-details-

7.4 ITE1606 3D-Modelling

- Level: Bachelor

- Project type: Assignment

- College/University: Narvik University College

- IDE, Editor, Tools: 3DS Max

- Repository: https://github.com/klAndersen/Bachelor-development-projects/tree/master/3D%20Modeling/ITE1606%203Dmodellering