**Plan of action Project Period 3 Hanzehogeschool Groningen**

**Intro**

This document covers the start of a project for Kampot Cement. This company is specialized in creating cement for small and large businesses. The company is dependent on the weather, mainly because cement can only be created at certain weather conditions. Therefore, Kampot Cement is interested in using weather data gathered by a company called UNWDMI. This company can offer very specific weather data gathered from more than 100.000 weather stations worldwide. These weather stations are active 24 hours a day, 7 days a week. The central office of UNWDMI is situated in Groningen. The weather stations send their data every second to Groningen.

The main assignment is to develop an application capable of receiving data from 8000 weather stations. This must be in real-time. The application must be programmed using Java.

For the project two servers will be used, one for the communication between the weather station and another one for central storage of the data. It is important that the communication between the servers works perfectly.

Also, data sent over the Internet has to be encrypted to prevent data manipulation or a security breach. No unauthorized access is permitted. Users need to login to gain access.

**Purpose of Plan of action**

This plan of action describes how the project has to be executed. It consists of the project definition, the project management, the project organization and the project planning. All tasks and activities are included.

**Target audience**

This document is addressed to:

* Kampot Cement
* UNWDMI
* Project members:
  + Kyle Gravenhorst
  + Dennis Harms
  + Karel Koster
  + Maiwand Rasulzadeh
  + Joppe Klaver
* Possible stakeholders:
  + Clients of UNWDMI

**Project definition**

* Project assignment
  + The project has to be finished before February 5th. The assignment regards developing two servers. One server is for the communication between 8000 weather stations, the other server is for the storage of the weather data provided by the aforementioned weather stations. The data from the weather stations also needs to be visible on a website which should update in real-time.
* Goal
  + The goal is to develop two functional servers before February 5th.
* Conditions
  + The server for the communication between the weather stations has to be programmed in Java. The source code has to managed using a Git repository, preferably using GitHub. Source code gathered from any other source than the programmer himself has to be mentioned in a list of references.
* Risk’s
  + There is a possibility that not all tasks are finished when the deadline is over, due to:
    - A project member falling ill,
    - A project member having to deal with private affairs,

**Project management**

* Approach
  + The project will be approached using the Scrum method. The projectgroup will meet every day and discuss their progress. Every task will be done by using ‘sprints’. Between these sprints, the work result will be discussed and evaluated by other project members.
* Phasing and milestones
  + The plan of action is the kickoff of the project. The finish of this document will be the first milestone. The second milestone will be the functional and technical designs. After finishing the documentation, the programming will start. When the servers are complete, milestone three will be achieved.
* Project results
  + The following products will be delivered at the end of the project:
    - Plan of action
    - Functional design
    - Technical design
    - Light-weight server
    - Data-storage server
    - Web application
    - Demonstration

**Project organization**

* Organization
  + To make decisions we discuss the problems and have everyone state their opinion/solution. When not all the project members agree we would take a vote where the majority should win the vote. If needed the project leader can make decisions if an agreement could not be made.
* Roles, authorizations and responsibilities
  + The project group contains 5 members
    - Kyle Gravenhorst (CEO/projectleader)
    - Dennis Harms (employee)
    - Karel Koster (employee)
    - Maiwand Rasulzadeh (employee)
    - Joppe Klaver (employee)
* Purchase of tooling/software
  + There is no need to purchase any tooling/software. All needed tooling/software is available for students.
* Reporting documentation
  + After each sprint all members will document their progress individually and in the end all documentation should be added to 1 document containing all documentation of the product. New code should be uploaded to github immediately.
* Communication
  + The project group will meet 4/5 times a week and start the day with brainstorming about problems/solutions. For any questions outside the meetings there is a group chat where everyone can ask questions.

**Planning and schedule of tasks**

|  |  |  |
| --- | --- | --- |
| Task | Member(s) | Deadline |
| Documentation |  |  |
| Plan of action | Everyone | 21-1-2019 |
| Functional design | Everyone | 25-1-2019 |
| Technical design | Everyone | 4-2-2019 |
| Web application |  |  |
| Create admin account | Dennis | 25-1-2019 |
| HTTPS/SSL | Dennis | 30-1-2019 |
| Create login page | Karel | 25-1-2019 |
| Design informational graphs | Karel/Maiwand | 4-2-2019 |
| Java application |  |  |
| Create the application | Kyle | 4-2-2019 |
| Configure connection | Joppe | 4-2-2019 |