

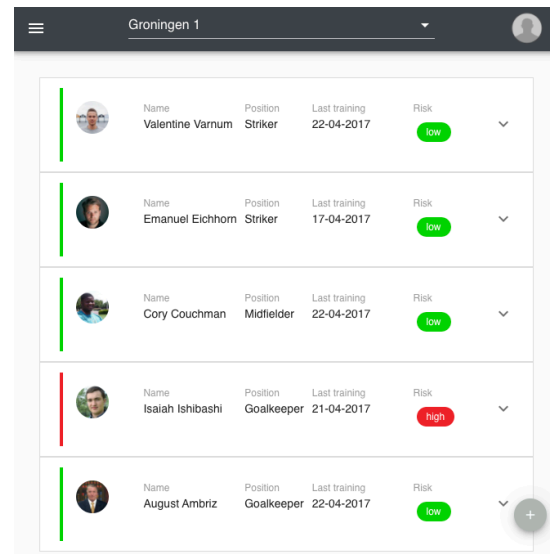
## OPEN SOURCE SPORTS LOAD MONITOR APPLICATION

During the project “Big Data Technologies for Load Monitoring” a prototype has been developed of a system that helps (soccer) trainers to gain insight in the sporter’s health. The prototype uses data that has been gathered by professional soccer clubs (Heracles, PEC Zwolle, FC Groningen) during training sessions. The data is used in a machine learning algorithm that predicts the players exhaustion.

A number of students and researchers have contributed to the current prototype. A frontend has been developed using Vue.js and Express (Node.js).

The backend uses python (scikit-learn) for machine learning and hosting the api (flask).

Our next goal for the prototype is to open-source the project. The current state of the software does not allow that straight away.



Name	Position	Last training	Risk
Valentine Varnum	Striker	22-04-2017	low
Emanuel Eichhorn	Striker	17-04-2017	low
Cory Couchman	Midfielder	22-04-2017	low
Isaijah Ishibashi	Goalkeeper	21-04-2017	high
August Ambriz	Goalkeeper	22-04-2017	low

## TASK DESCRIPTION

- Prepare the current prototype and publish it to an appropriate open-source platform. During the development of the different parts, some unfortunate design and implementation decisions have been made. We need the system to be cleaned up, documented properly and (partly) redesigned in order for other people to be able to contribute.
- Extend the current prototype with missing functionalities (e.g. configuration of data selection / processing in front-end or selection of machine learning parameters)
- Design and implement a data sharing platform that allows (amateur) sports clubs to share data that can be used to train and share improved models. The platform must adhere to the GDPR.

## PRACTICAL INFORMATION

- **Student profile:** HBO-ICT SE. Affinity with python (flask / scikit-learn / pandas) and Vue.js is an advantage
- **Duration:** February 2021 – June 2021.
- **Compensation:** 230 euro before taxes when carrying out this assignment at Ambient Intelligence.
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