



Sport Hackdays 2022 – Dartfish Challenge 2

Purpose of Dartfish

DESCRIBING FLOORBALL TACTICS IN REAL-TIME

The main goal of the Dartfish challenge is to increase fan engagement with the help of various statistics (event detection of shots and passes, ball possession etc.), which help fans better understand the game. The visual tracking system developed by Dartfish shall be used to do so. Thereby, multiple cameras monitor the field, which can track the individual players and the ball.

As floorball is relatively fast, many details should be noticed when watching a game for the first time. This can also be interesting for more experienced spectators as it is rather difficult to tell which team is more offensive and performs better in terms of shots etc. Therefore, the aim is to use statistics and event detection to show the spectators what is happening. Finally, this can also be very attractive to offer sponsors a platform where they can present themselves (e.g. Insights brought to you by XXX). This is a vital part of increasing fan engagement as investments are required to set up the technology of Dartfish in a different arena.

Our contribution to the challenge

The project team has already completed data preparation and data cleaning in advance. During the Hackdays, the focus lies on finding new insights through data analysis. The goal is to create a proof of concept on how to gain valuable insights from the available dataset.

Technology

The programming environment is on a virtual machine; through a simulator, the data is streamed in real time, and the data processing is done in Apache Kafka streams. The programming language Python will be mainly used; besides that, some basic SQL programming skills are beneficial.

Underlying Data

There is data from the ball and the players. Each data point has a time stamp and an x and y coordinate. The focus is on evaluating the quality of the data.

Dataset 1 - Object data: This dataset contains the timestamp (50Hz) and the ball's respective x- and y-coordinates.

Dataset 2 - Player data: This dataset contains the timestamp (50Hz) and the respective x- and y-coordinates per player.

Dataset 3 - Playtime data: This dataset shows the timestamps when the game was interrupted and continued.

Challenge owners: [swiss unihockey](#) & [Dartfish](#)