# Acme AI Test Case

Full Stack Developer

# Setting up the configuration tool

**Step 1:** Download Docker Desktop for free (choose the download according to your operating system)

   Set up as required

**Step 2:** Open your IDE (PyCharm, VSCode, …)

**Step 3:** Clone the "configuration-tool" repository from: https://github.com/trackbox-ai/configuration-tool.git

**Step 4:** Open as a project in your IDE

**Step 5:** Build the application

   Step 5.1: Open Docker Desktop

   Step 5.2: Open the terminal in your IDE and put "docker-compose build"
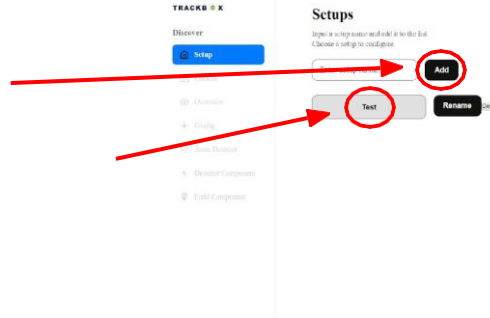
   Step 5.3: Run the file "docker-compose.yml"

**Step 6:** Navigate to http://localhost:3000/ in your browser

# Test the configuration tool

## Setup Page

**Objective of this page:**

- Add a camera configuration to be made
- Select an already existing camera configuration to adjust



**Workflow:**

- Put a name in the textbox, before adding the camera configuration
- Select for example camera configuration "Test" if you want to adjust this one instead of creating a new one

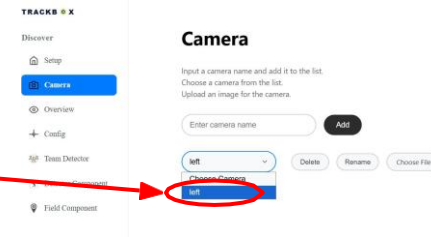# Test the configuration tool

## Camera page

**Objective of this page:**

- Add camera(s) to a selected configuration
- Select a camera of a selected configuration
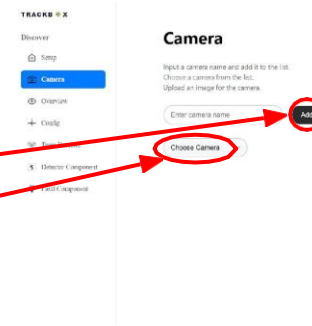
**Workflow:**

- Put a name in the textbox, before adding a camera
- Click "Choose Camera" and select the camera you want to adjust

# Test the configuration tool

Camera page:  Configuration - Camera

**Objective of this page:**

Just input text, so these values are not used anywhere in the tool
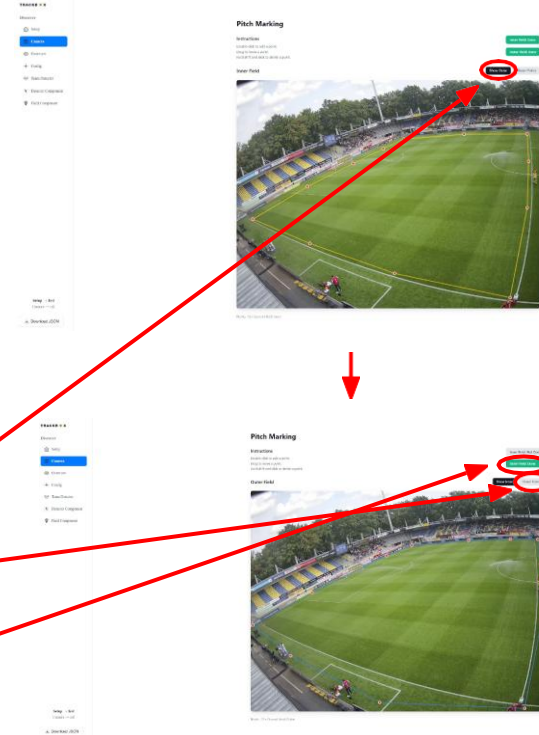
# Test the configuration tool

## Camera page:  Pitch Marking

**Objective of this page:**

- Add inner and outer field points

**Workflow:**

- Double click to place a point
- Drag if you want to replace the point
- Functionality: add point between other points and it will be easily integrated
- Switch to outer field points by clicking "Show Outer"
- Reset points by clicking "Reset Points"
- After putting 4 points on the image – it will be marked as done

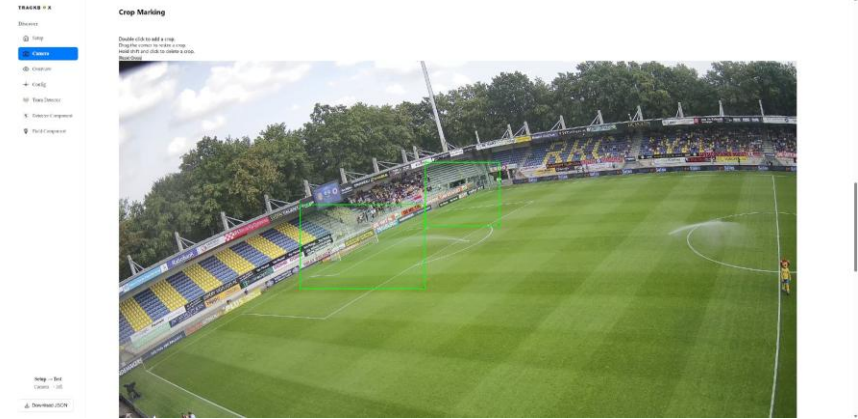# Test the configuration tool

## Camera page: Crop Marking

**Objective of this page:**

- Add inner and outer field points

**Workflow:**

- Double click to place a crop
- Adjust the crop by dragging the right bottom corner
- Shift + click to remove a crop
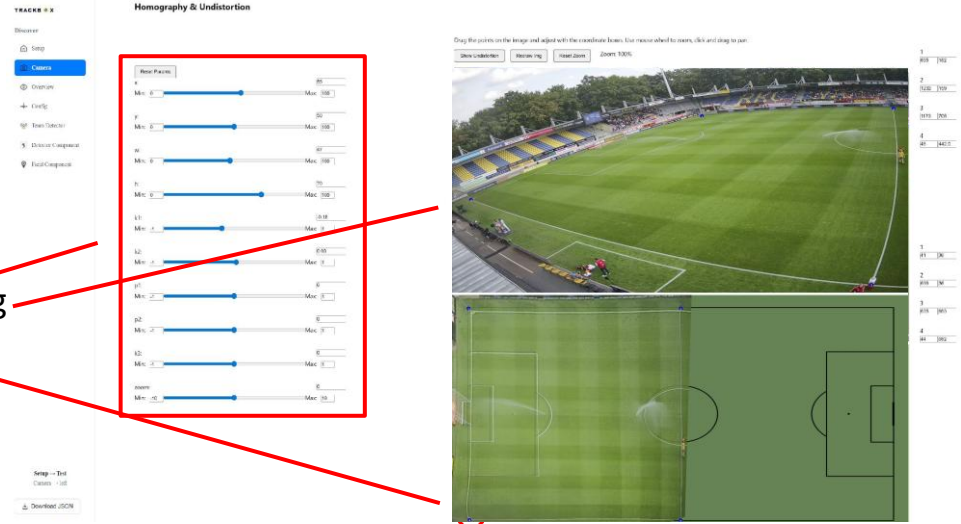- Remove all the crops by clicking "Reset Crops"

# Test the configuration tool

Camera page:  Homography & Undistortion

**Objective of this page:**

- Project the image on the 2D map

**Workflow:**

- Drag the 4 blue points to keypoints on the imag
- Do the same for the 4 points on the 2D map
- Adjust the params to project the image on the 2D map

# Test case

## Context:

The version you tested is the current status of our configuration tool. It's not fully operational yet, so we want to start using it as soon as possible and are looking for a full stack developer to take on this project, next to other exciting things to work on in the space of Sports Tech.

FYI: Only the "camera-page" is fully working. The other pages are not yet functional and should not be investigated.

**Part 1: Investigation**

Make an overview of the following:

- **Problems to be solved for v1:** these are things that need to be adjusted because otherwise the "camera-page" won't work properly.

- **Optimization for v2:** these are things that are "nice-to-haves" or "how it should be"

☐ List them, so we can use it as some sort of blueprint / planning board on what to develop, how and why!

**Part 2: Implementation**

Make an overview of the following:

- **Add functionality** to allow one camera to have multiple homography & undistortion combinations. We call this projections.

- **Add a drop down** (or something similar) to easily add and select projections for this camera. No need to be able to work on multiple projections at the same time.