Sumatra – Getting Started

This document will help you to get started with Sumatra, the AI software of TIGERs Mannheim. It explains how you build it and how you start a simple game.

Getting Sumatra

The first thing you will need to do is to get Sumatra. The Open-Source release is available here:

https://tigers-mannheim.de/download/release2018/

Here you will find everything from our ETDP to Sumatra. You want to download the 'Software-2018.tar.gz' file. Once downloaded you need to extract the tar.gz archive.

On Linux you can use the default tar utility:

```
$ tar -xzf Software-2018.tar.gz
```

To build Sumatra you will need a working Java and Maven installation. Now you can navigate into the `release/` directory and execute the 'run.sh' script on Linux or the 'run.bat' script on Windows. It will make sure that Sumatra is built and will then launch it.

Starting Sumatra
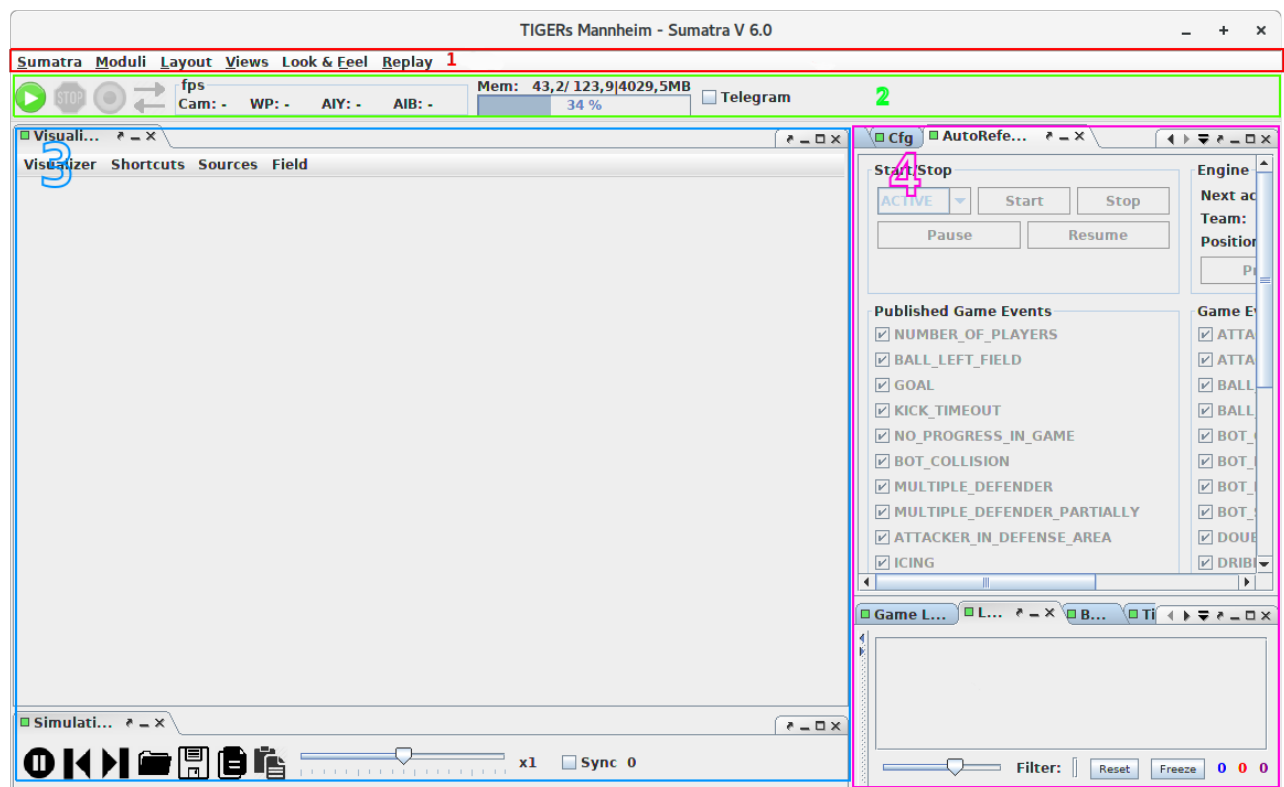
Screenshot 1: main user interface with disabled AI

After you started Sumatra you will see the main user interface. It is separated into 4 areas by default:

(1) **Menu Bar** – Here you will find all top-level functions like loading/saving layouts, switching themes, opening new views and you can access saved replays.

(2) **Top Bar** - The top bar includes the four most important buttons (toggle AI, emergency stop, record replay, switching sides) as well as some basic system information (fps and memory usage)

(3) **Visualizer** – Technically the visualizer is a normal view but as it is the most important view it gets a special position. It will show the current game state either in the simulation or in a real game. It shows the field, bots, ball and some basic values like goals per team.

    (1) On top of the visualizer you find a menu bar with various options. You can control which details of the AI should be rendered to the visualizer.

    (2) In the middle there is the field itself. You can place the ball with the right and move the view with the left mouse button. If you select a bot on the left side, you can move the bot with the left mouse button as well. There are also keyboard modifiers available, for more details you should look into the 'Shortcuts' menu on top.

    (3) At the bottom there is another view called 'Simulation'. Here you can change the simulation speed and save or load snapshots.

(4) **Views** – All other views are on the right side by default. You can navigate them via the tabs on top. Each view displays a specific set of information. You can close views by clicking on the [x] button and reopen one via the 'Views' entry in the **Menu Bar.**

At this stage the AI is not running. To create a game in Sumatra you need a running AI so we will toggle it with the 'play' button in the left corner of the top bar. Now you will see the fully functional user interface:
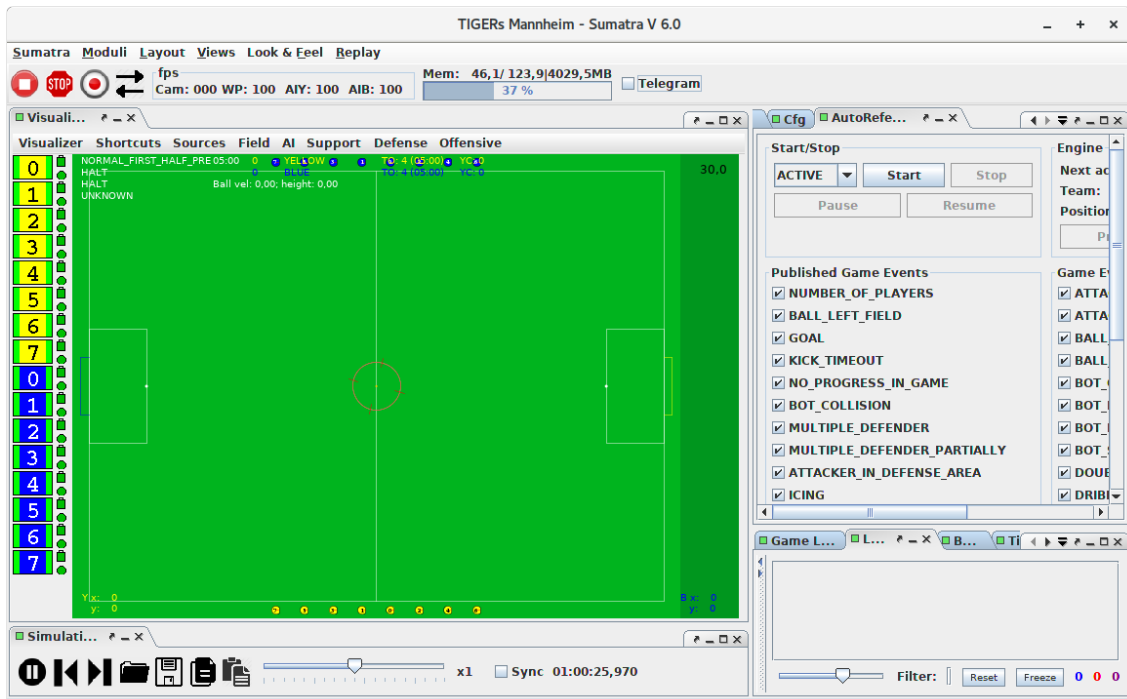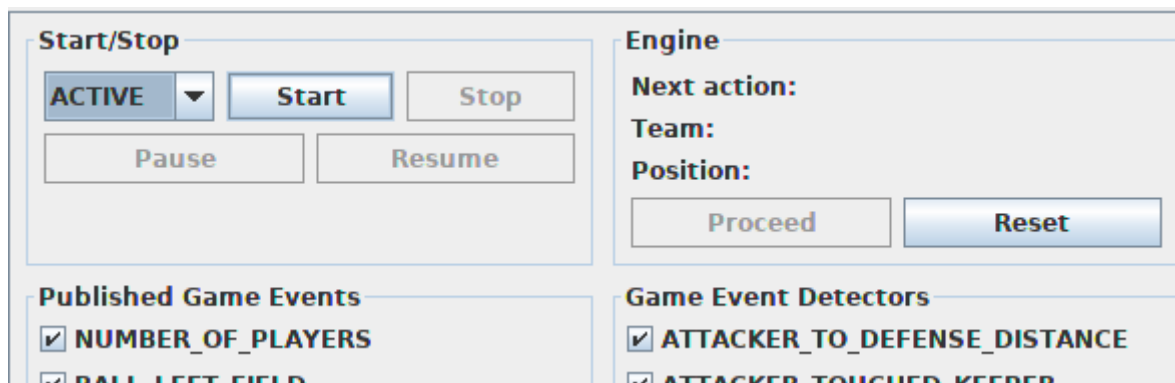
Screenshot 2: Sumatra main user interface with running AI

Setting up a (virtual) Game

1 – Auto Referee

First you will need to setup the autonomous referee. To do this you navigate to the AutoReferee view in Sumatra:

Screenshot 3: Auto Referee view

Once you found this view you need to make sure that the mode is set to ACTIVE (default) and then you can press 'Start'. Now the AutoReferee is running and will react to game events.

2 – Manual Referee Commands

To finally start the game you have to send a few manual referee commands. To do so, navigate to the 'Ref' view:

Screenshot 4: Sumatra RefBox

Here you will find the most important information in the top-left corner during a game. For example you can see the goals, the current stage, the time that is left and a command history.

The first thing you want to do is to set the goalie. You will find the setting for that at the bottom of the two team panels (YELLOW, BLUE). To select a goalie enter the desired bot ID into the field.

After everything is setup, you can now send the 'STOP' event. To do so, you can either click the 'Stop' button on the Ref View or press [F3]. The bots should now move into the 'STOP' position. If you are ready to start the game click on 'Kickoff' on one of the two team panels.

During the game you can interrupt the game with the common commands on the top-right side. To change the game state you can use the buttons below. By pressing 'Half Time' you will interrupt the game and end the current stage. Then you select a new stage (e.g. 'Second Half') and follow the same kickoff procedure as described above: send 'STOP' and select a kickoff team. Note that you may need to place the ball at the center before doing so. You can either do this manually or by clicking 'Place Ball' on any of the two teams.

When the game is finished you click the 'End Game' button.

Important Keyboard Shortcuts

Action	Shortcut
Emergency Mode	ESC
Start / Stop AI	F11
Reset Layout	F10
Send HALT referee command	F4
Send STOP referee command	F3
Send START referee command	F2