Forest FireFighter F³

4th sprint review

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INSA TOULOUSE

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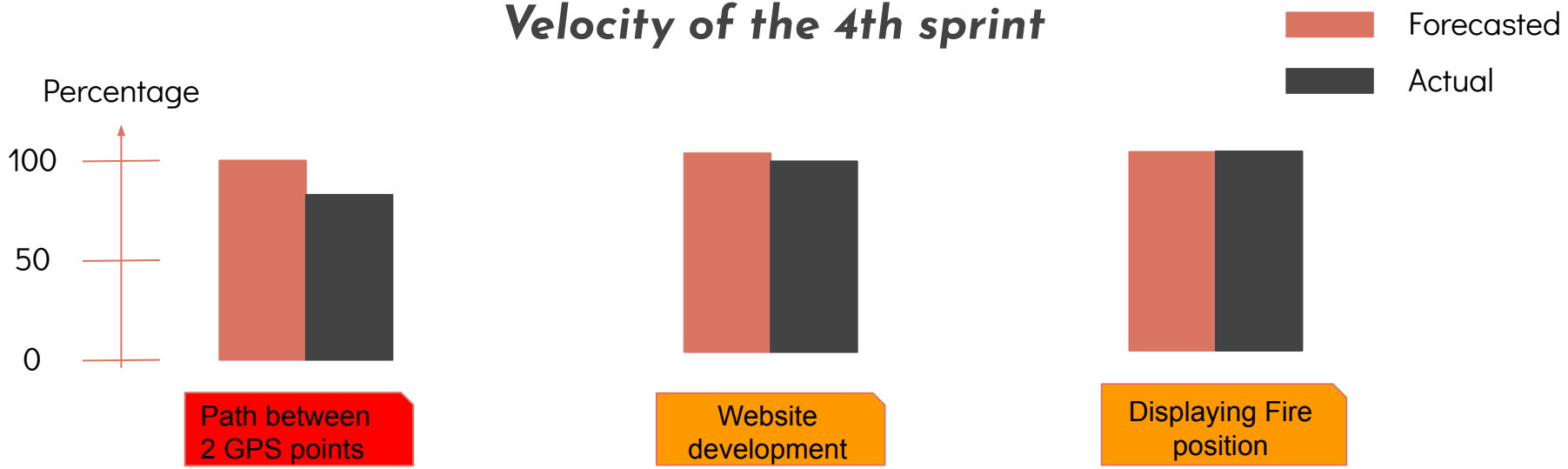
01 PLANNED AND REALIZED STORIES

Velocity of the 4th sprint



-Amelie Maier
-Ruiqi Hu
-Liao Zhang

-Corentin Tatger
-Axel Jorge

-Youssef Amari
-Liao Zhang

02 DIRECTION AND MOVEMENT

Stories

- User Story 1: Start-up of the car
- Test: The car can be started easily without complicated operations and have enough time to place the car
- User Story 2: Direction and movement between two GPS location with in straight line and with a turn
- Test: The car goes autonomously to a GPS location given and stop at it with a 50 cm accuracy
- User Story 3: The 360 degrees rotation of the car
- Test: The car automatically rotates 360 degrees when it reaches the end point

02 DIRECTION AND MOVEMENT

Test description

Instead of opening the Cutecom and starting the software by hand, users only need to enter the following command in the terminal:

- `sleep _h_m_s && make`

The waiting time can be defined. (ex: sleep 3h && make)

...

02 DIRECTION AND MOVEMENT

Demonstration

02 DIRECTION AND MOVEMENT

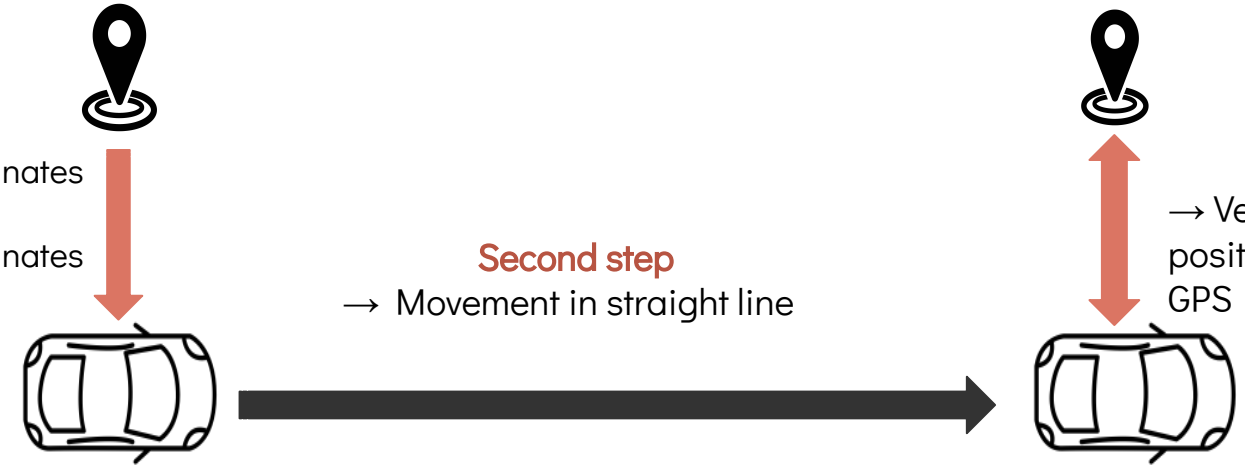
Test description

First step

→ Receive the GPS coordinates of the position of the car

→ Receive the GPS coordinates of the location to join

→ Calculations



Second step

→ Movement in straight line

Third step

→ Verification of the position with the GPS

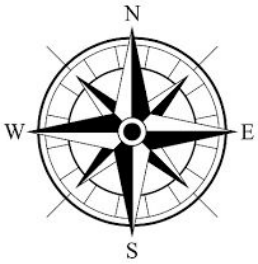
Acceptation threshold → the car stop at less than 50 cm of the location given

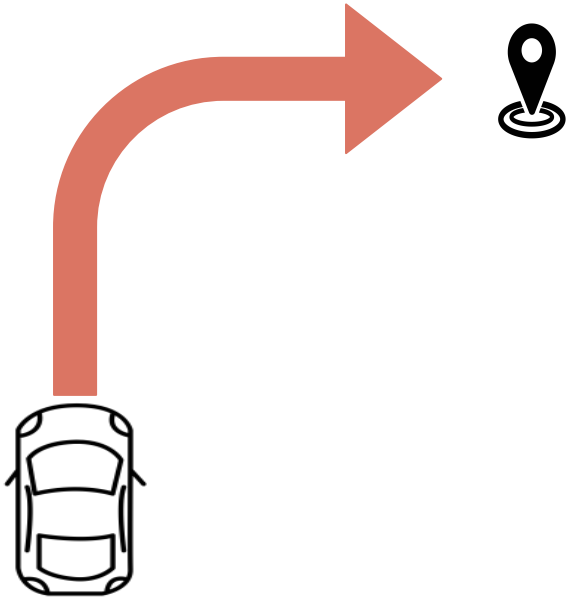
02 DIRECTION AND MOVEMENT

Demonstration

02 DIRECTION AND MOVEMENT

Test description

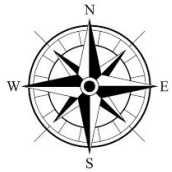




- Put the car in North direction
- Send its own location and the GPS location where we want to go
- Wait that the car stops at the right location with a 50 cm accuracy

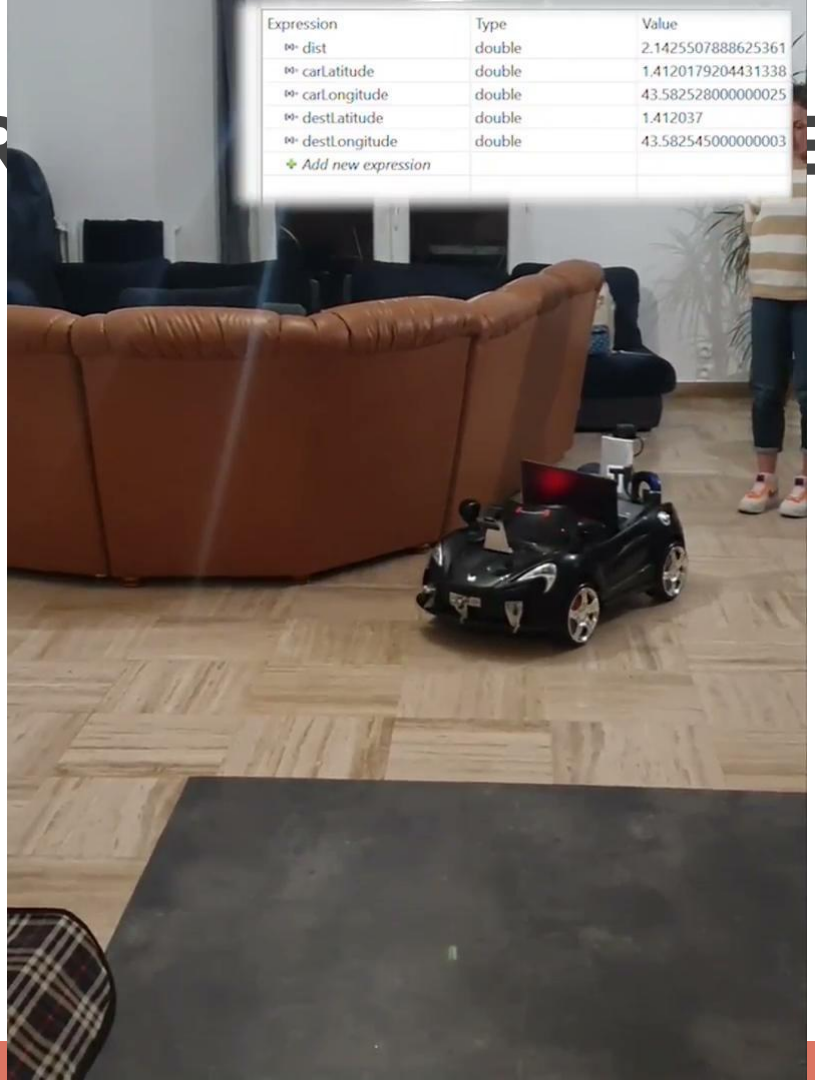
02 DIRECTION AND MOVEMENT

Demonstration



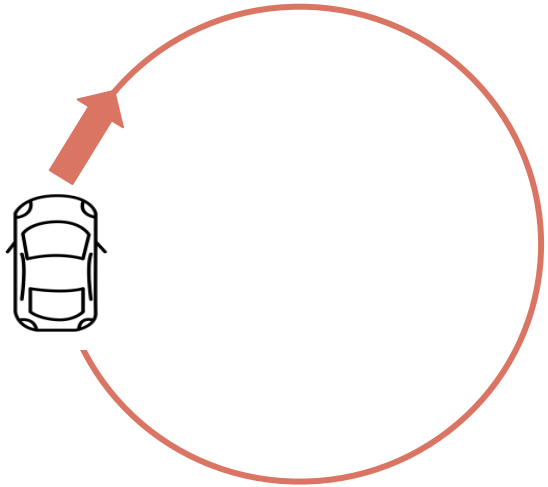
Expression	Type	Value
dist		
carLatitude		
carLongitude		
destLatitude		
destLongitude		

02 DIR EMENT


Expression
Type
Value
dist
double
2.1425507888625361
carLatitude
double
1.4120179204431338
carLongitude
double
43.582528000000025
destLatitude
double
1.412037
destLongitude
double
43.582545000000003
Add new expression

02 DIRECTION AND MOVEMENT

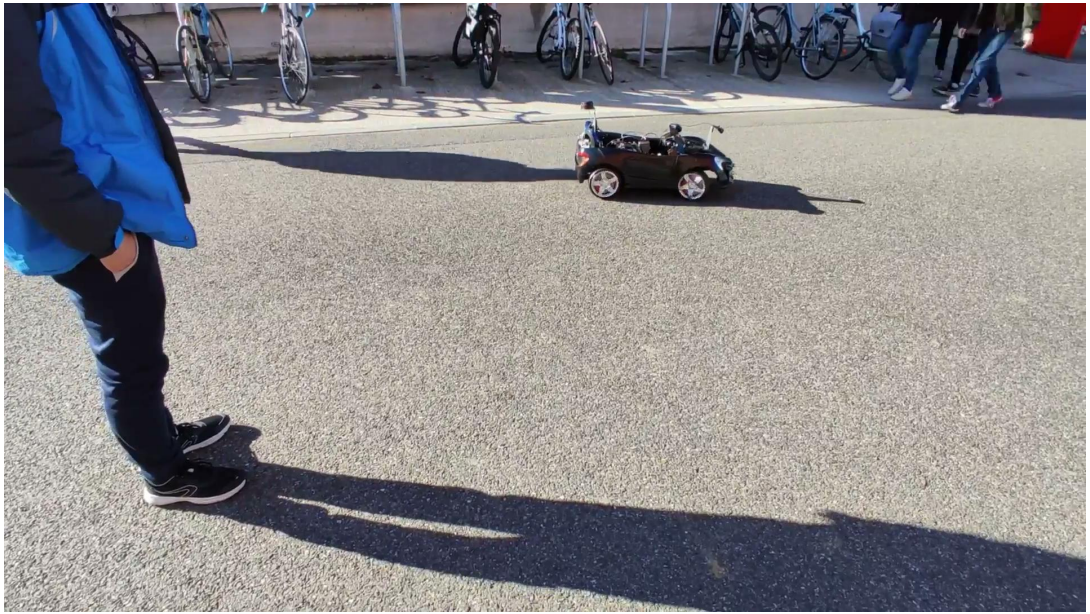
Test description



- The left front wheel and the right front wheel of the car turns right
- Give the left rear wheel a speed and keep the right rear wheel unchanged
- One 360 degree rotation from the starting point lasts one minute

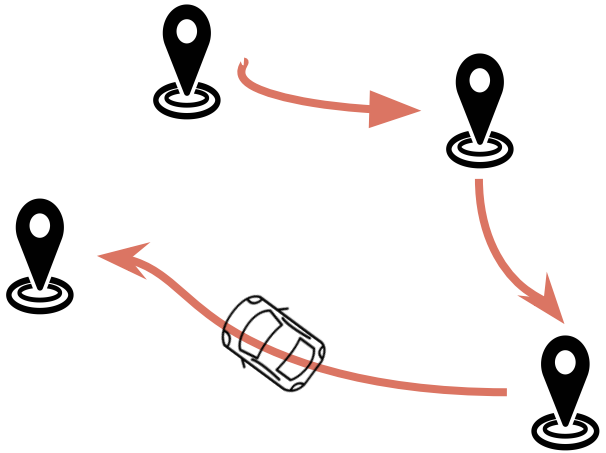
02 DIRECTION AND MOVEMENT

Demonstration



02 DIRECTION AND MOVEMENT

Next improvements



OBJECTIVES

- Movement between several GPS locations
- Receive the GPS locations path send by a user
- Send a CAN frame when the car is arrived at the right location

02 WEBSITE

Stories

- User Story 1: Develop the structure of the website, and starting to develop the mains features of the website

- Test: The home page of the website must be done with the mains features like the menu and the login system

02 WEBSITE

Home page

02 ALERT

Stories

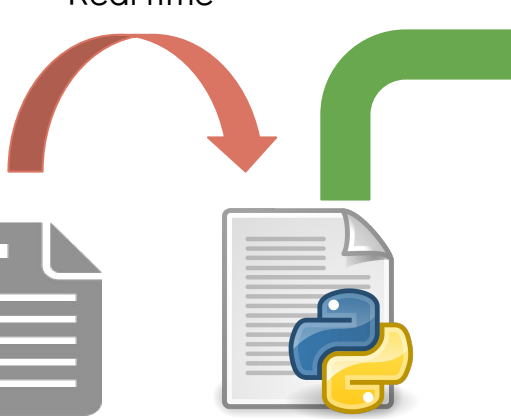
User Story 1: **Display detected fire position on a map and a photography of it.**

Test: **Generation of some coordinates of fire in a file in order to display each position in an interactive map with a photo of the detection.**

02 ALERT

Demonstration: Introduction

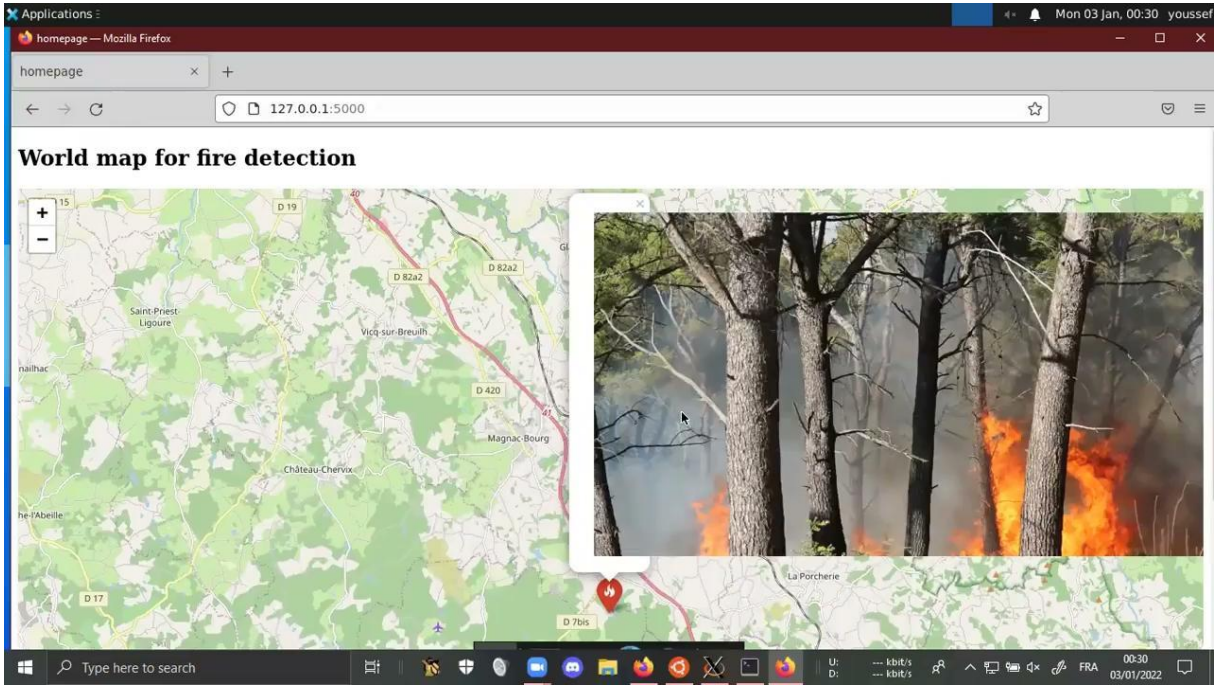
Real time



Fire_coord.txt

02 ALERT

Demonstration



02 ALERT

Demonstration: Conclusion

- Reading a file with coordinates in real time 
- Display fire localisation on interactive map 
- Display a photography of the fire 

03 NEXT SPRINT ?

EPIC (DIRECTION AND MOVEMENT / COMPUTER VISION / WEBSITE AND COMMUNICATION)

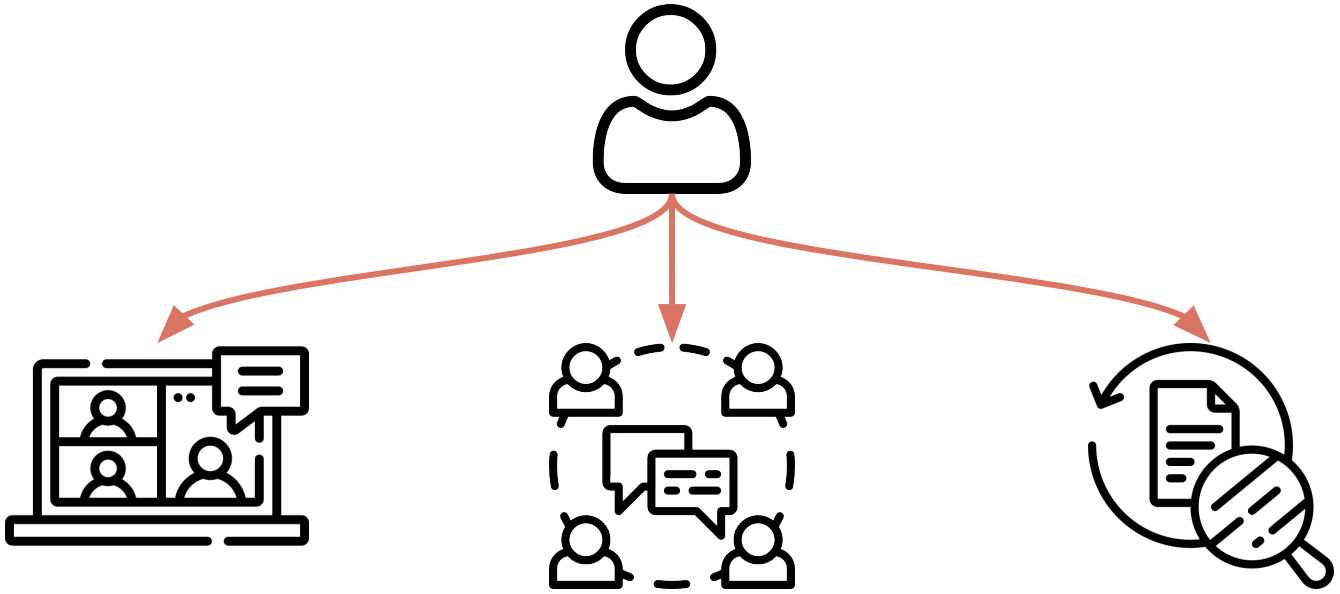
- User Story 1: ***When turned on, the car should start its full work routine and send fire alert to the website***
- Test: The car should go to the next gps location, check for fire outbreaks and update the website if needed. If a fire is detected, we can see the position on the website

EPIC (WEBSITE AND COMMUNICATION)

- User Story 2: ***Send predefined path thanks to HTTP request to the remote website***

- Test: The server has to receive correctly the HTTP request and save the data on a file. After that, if we can display the different icons of the path on the map we can approve the test.

04 SCRUM MASTER'S ROLE



Weekly scrums

Team communication

Sprint Retrospective

04 CONCLUSION

Thank you for your attention,

any questions ?