

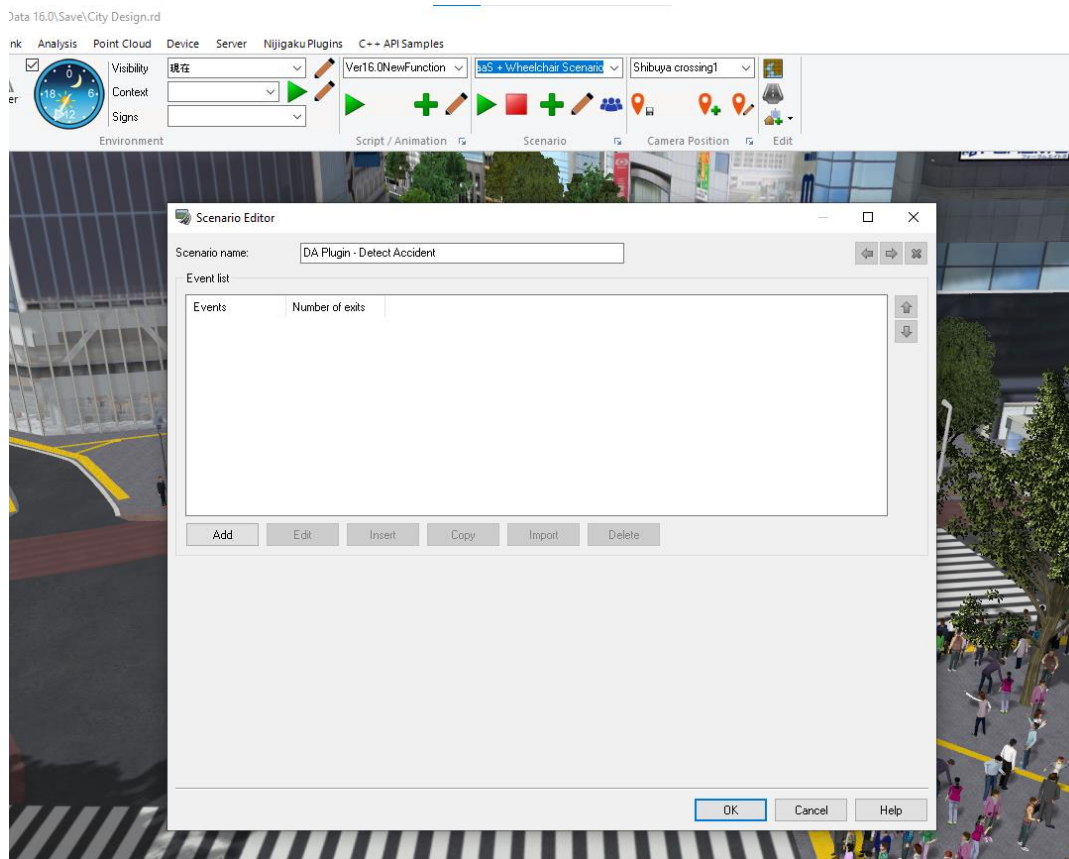
# NIJIGAKU TRAFFIC RADIO – USER MANUAL

## Precautions before proceeding

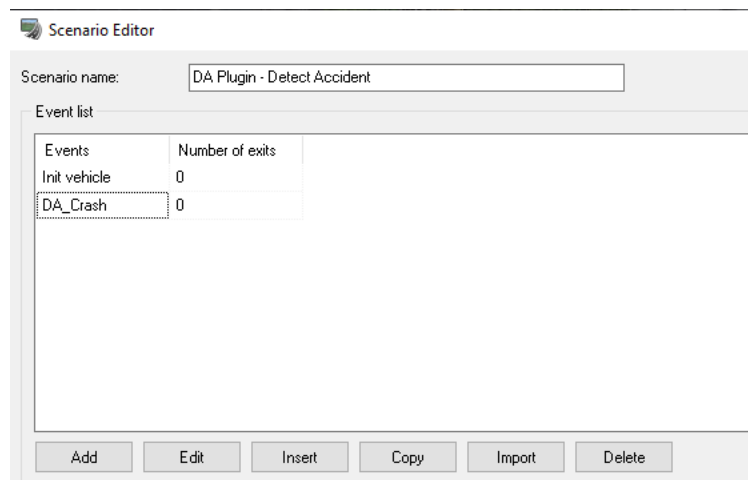
1. Please follow the instructions in the user manual carefully.
2. All names inside the double-quotes, if need to be entered, must be done so exactly, case-sensitively, and without the double-quotes themselves, or else the plugin will not work.
3. The button “Report with a photo” in the client app is in development, and it will not work for now.

## I. Setup sample scenario for plugin usage

1. Create a new scenario named “DA Plugin – Detect Accident” (without quotes).



2. Add the following 2 required events: “Init vehicle” and “DA\_Crash”.



3. Select the “Init vehicle” event then click the Edit button.

Another dialog appears like this:

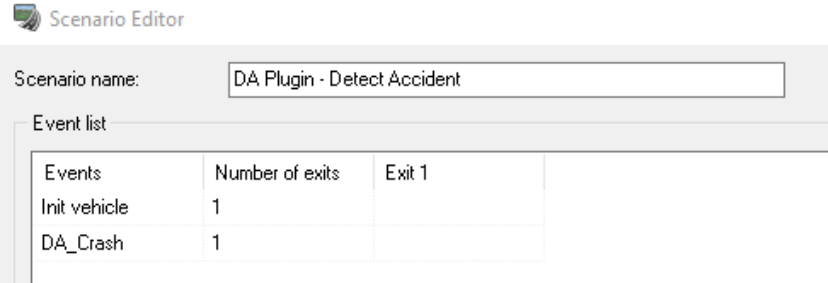
The screenshot shows the 'Event editor: Init vehicle' dialog box. It has a tabbed interface with 'User simulation' selected. The 'Simulation command' dropdown is set to 'do nothing'. The 'New vehicle' section includes: 'Initial speed' (50 km/h), 'Max speed limit' (0 km/h), 'Road / Start point' (empty dropdown), checkboxes for 'Start with stopped engine', 'Start with parking brake ON', and 'Allow off road driving', 'Lane' (1), 'Initial position' (0 m), and 'Direction' (radio buttons for 'Drive from the start of road to the end of road' and 'Drive from the end of road to the start of road'). The 'Model' and 'Trailer' dropdowns are empty. 'Driving Mode' is a dropdown menu. 'TTC' is 10.0 s, 'Release ACC on user brake input' is checked, and 'Brake release threshold' is 0.10. The 'Previous vehicle' section has radio buttons for 'leave the vehicle' and 'delete the vehicle'. The 'View Mode' dropdown is set to '[do nothing]'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

In the User simulation tab, use the command “launch a new vehicle”. You can customize other parameters for your own sake.

The screenshot shows the 'Event editor: Init vehicles' dialog box with the following settings: 'Simulation command' is 'launch a new vehicle'. 'New vehicle' settings: 'Initial speed' (50 km/h), 'Max speed limit' (0 km/h), 'Road / Start point' (Karasuma-street), checkboxes for 'Start with stopped engine', 'Start with parking brake ON', and 'Allow off road driving', 'Lane' (1), 'Initial position' (0 m), 'Direction' (radio button for 'Drive from the start of road to the end of road' is selected), 'Model' (4w/D Blue car icon), 'Trailer' (empty), 'Driving Mode' (Manual mode), 'TTC' (10.0 s), 'Release ACC on user brake input' (checked), and 'Brake release threshold' (0.10). 'Previous vehicle' settings: radio button for 'leave the vehicle' is selected. 'View Mode' dropdown is set to '[do nothing]'. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Click OK. You will return to the Scenario Editor.

4. For each event in the Scenario Editor, allocate 1 exit point.



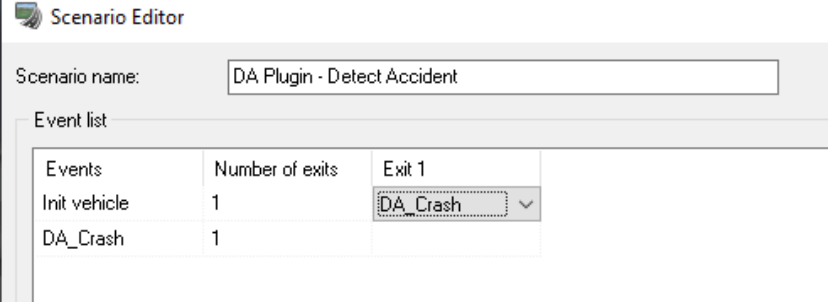
Scenario Editor

Scenario name: DA Plugin - Detect Accident

Event list

Events	Number of exits	Exit 1
Init vehicle	1	
DA_Crash	1	

For the Exit 1 entry of the event “Init vehicle”, set it to the event “DA\_Crash”.



Scenario Editor

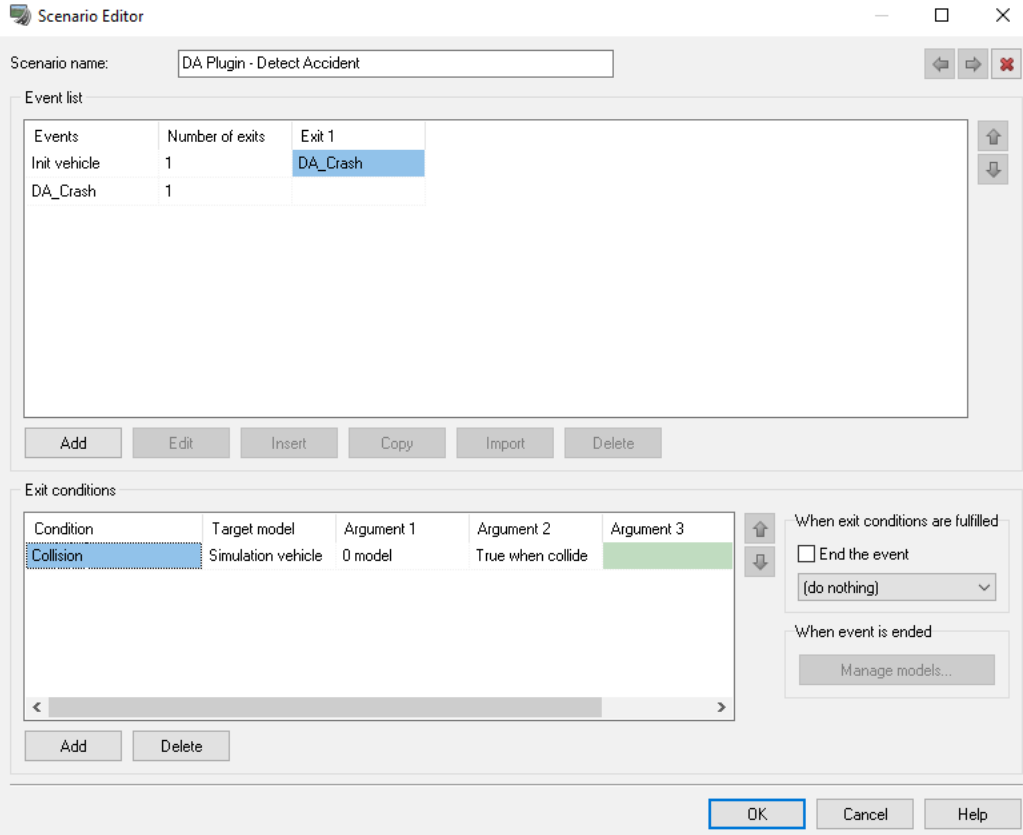
Scenario name: DA Plugin - Detect Accident

Event list

Events	Number of exits	Exit 1
Init vehicle	1	DA_Crash
DA_Crash	1	

In the “Exit condition” section below, add a condition with the following parameters:

- Condition: Collision.
- Target model: Simulation vehicle.
- Argument 2: True when collide.
- DO NOT tick “End the event” when exit conditions are fulfilled.



Scenario Editor

Scenario name: DA Plugin - Detect Accident

Event list

Events	Number of exits	Exit 1
Init vehicle	1	DA_Crash
DA_Crash	1	

Add Edit Insert Copy Import Delete

Exit conditions

Condition	Target model	Argument 1	Argument 2	Argument 3
Collision	Simulation vehicle	0 model	True when collide	

Add Delete

When exit conditions are fulfilled

☐ End the event

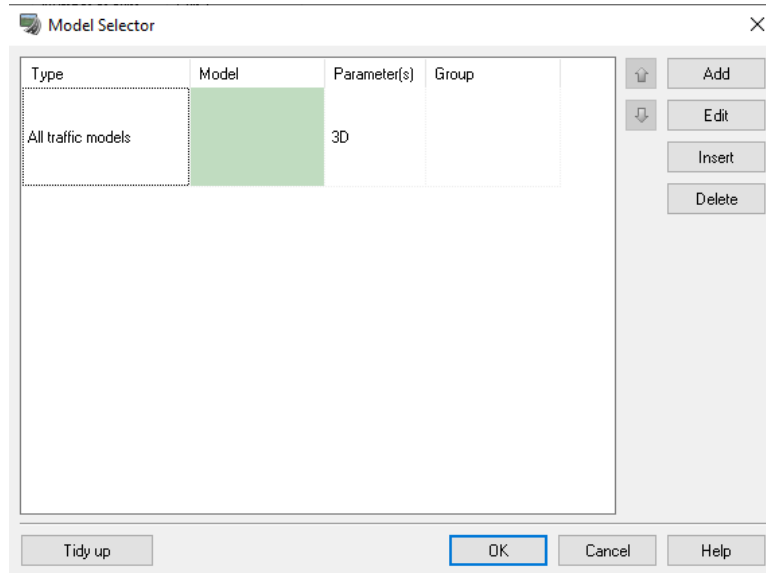
(do nothing)

When event is ended

Manage models...

OK Cancel Help

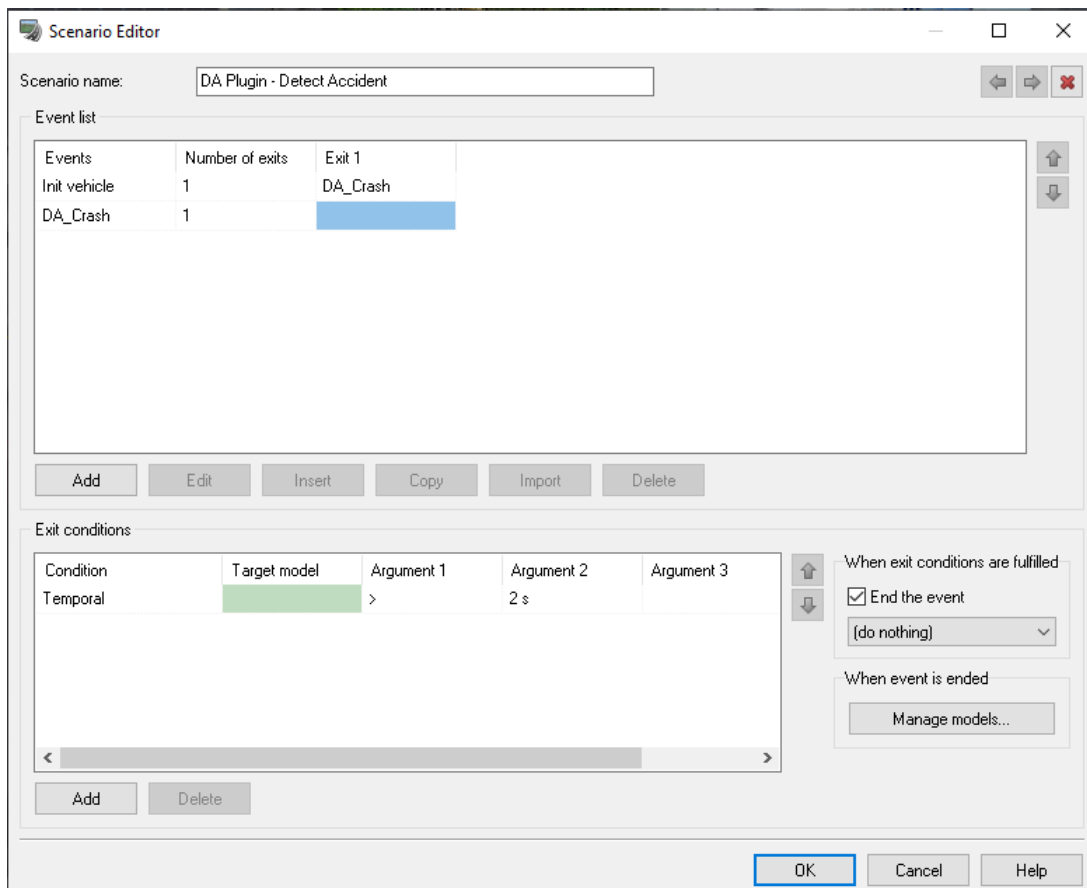
Click on the Argument 1 (0 model) of the newly created condition, then add your collision model in the Model Selector. In this example, we consider all traffic models.



Click OK to return to the Scenario Editor.

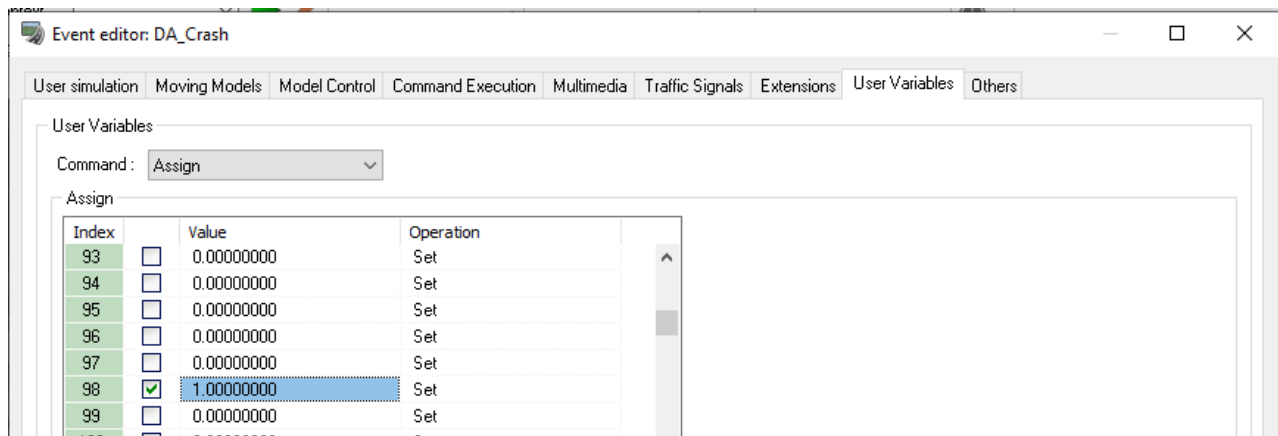
In the Exit 1 entry of the event “DA\_Crash”, add a condition to exit the event with the following parameters:

- Condition: Temporal.
- Argument 1: >.
- Argument 2: (any positive value; we recommend setting it to 2s).
- Tick “End the event” when edit conditions are fulfilled.



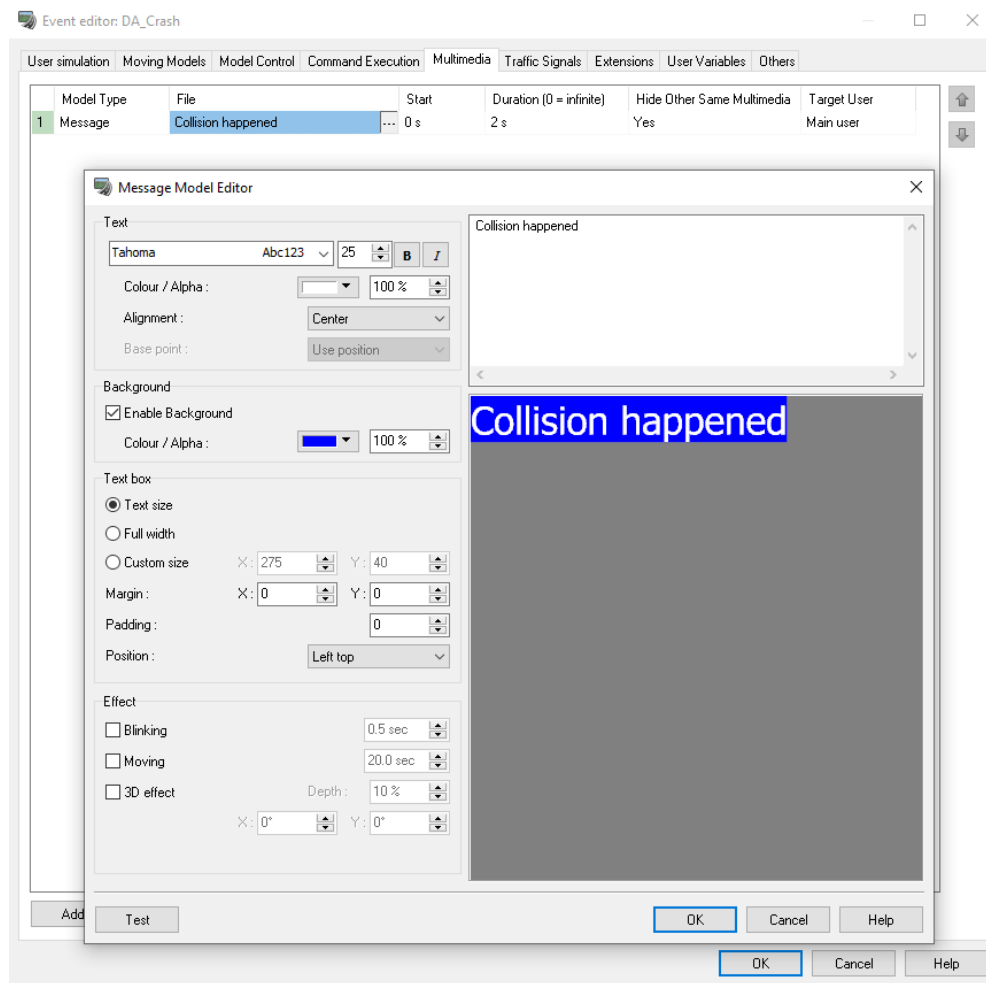
5. Select the “DA\_Crash” event then edit it. The Event Editor will open.

In the User Variables tab, select the command “Assign”, then find the row with index **98**, tick the box, fill in a positive number value and use the “Set” operation.

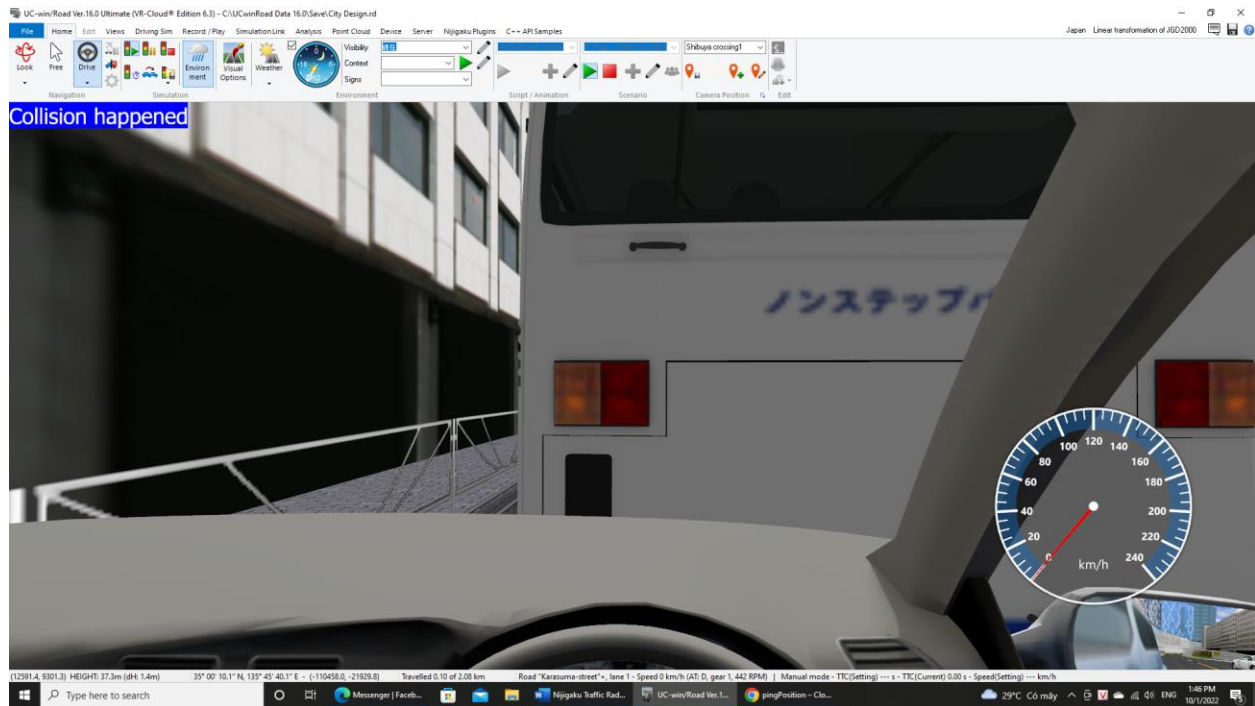


6. (Optional) To know whether the simulation driver has a collision, we will show a message once the event is triggered.

Open the Multimedia tab in the Event Editor of “DA\_Crash”. You can add a text message to notify whether a collision happens. Set the duration to a positive number of seconds.

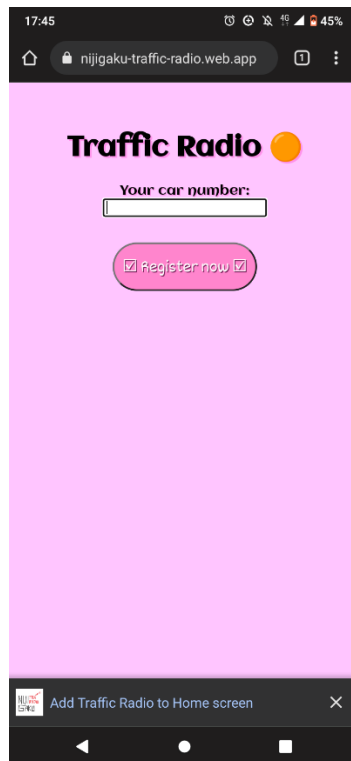


When a collision happens, the system shows a message as in the below screenshot.



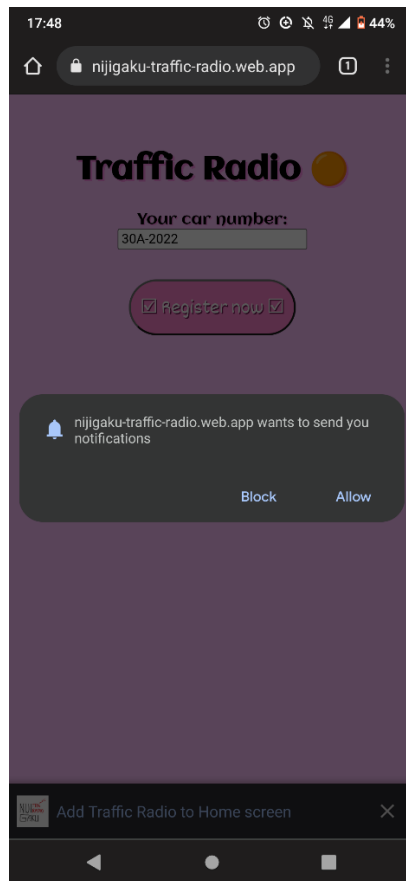
## II. Setup the client app

1. Open the web app [nijigaku-traffic-radio.web.app](https://nijigaku-traffic-radio.web.app) on your browser. In this case, we use a mobile device to act as the vehicle running the app.

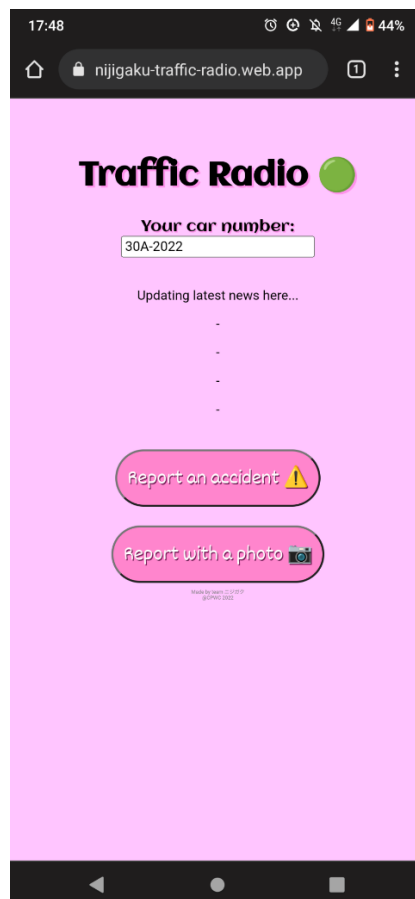


You can install the app by clicking “Add Traffic Radio to Home screen”, since this is a Progressive Web App.

2. Type your car plate number and click “Register now”. It may prompt you to ask for permission to show notification if you first access this app.



Once the light on the app title turns green, the app is ready to receive notifications from the server. You can also send accident reports by clicking on either one of the two buttons “Report an accident” and “Report with a photo”.

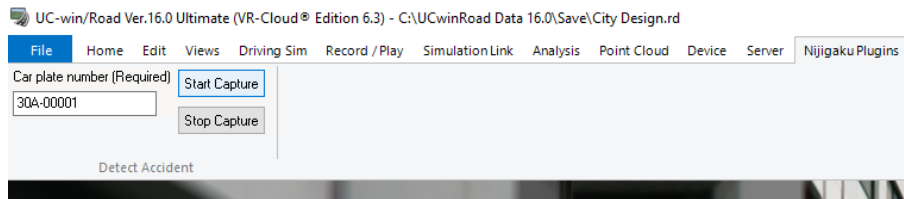


### III. Run the experiment

1. Select the previously created “DA Plugin – Detect Accident” scenario then click play to run the driving simulation.

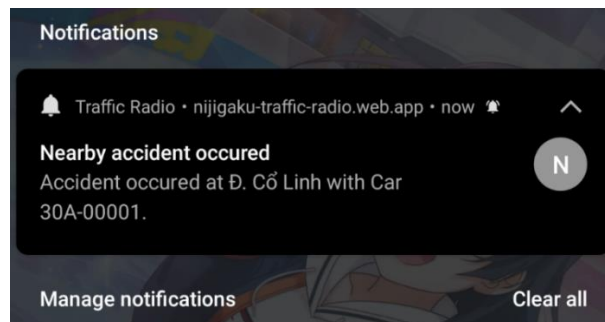


2. Open the Nijigaku Plugin tab, fill in the car plate number of the simulated vehicle, then click “Start Capture”. From here, the plugin starts detecting accident then send the information to the server.

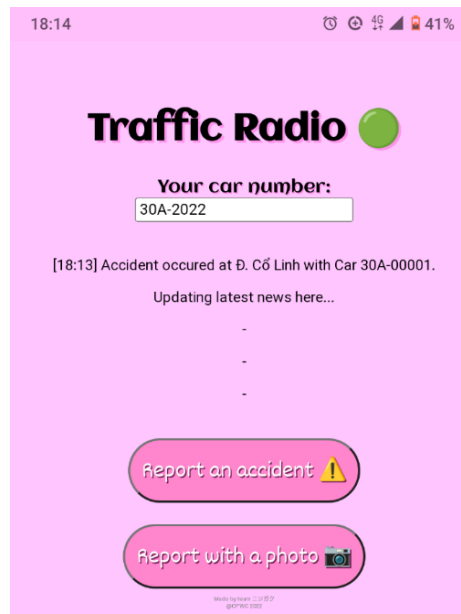


When a collision happens, the UC-win/Road plugin will send a notification to the server to inform all clients about the accident.

3. Check back in the client web app. A notification will appear like this if the web app is running background.

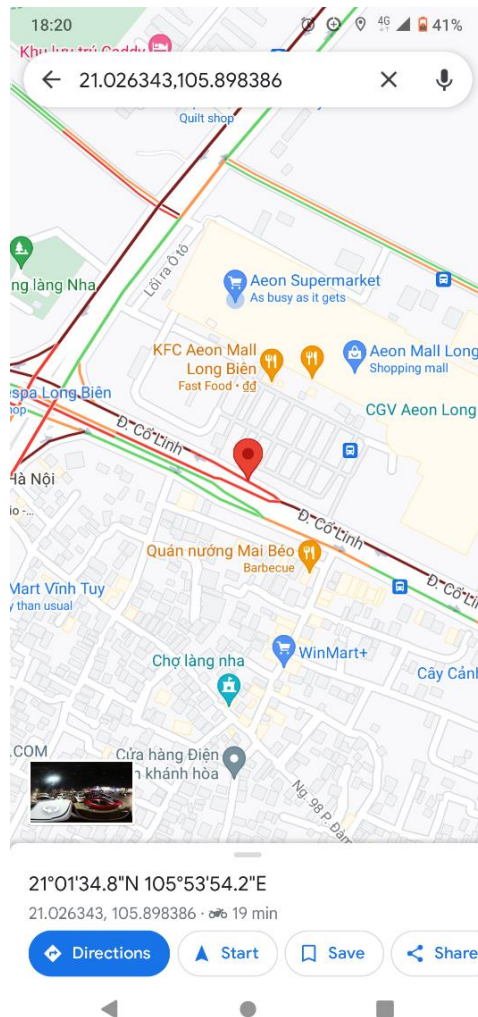


If it is running in the foreground, a speech notification about the location of the accident will sound off.

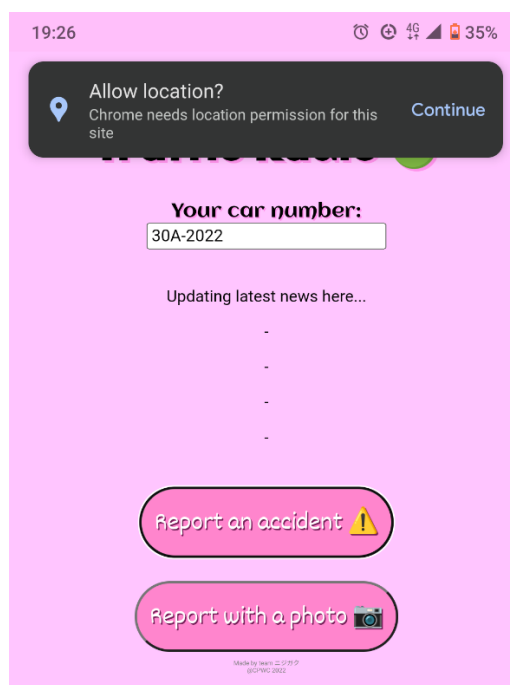




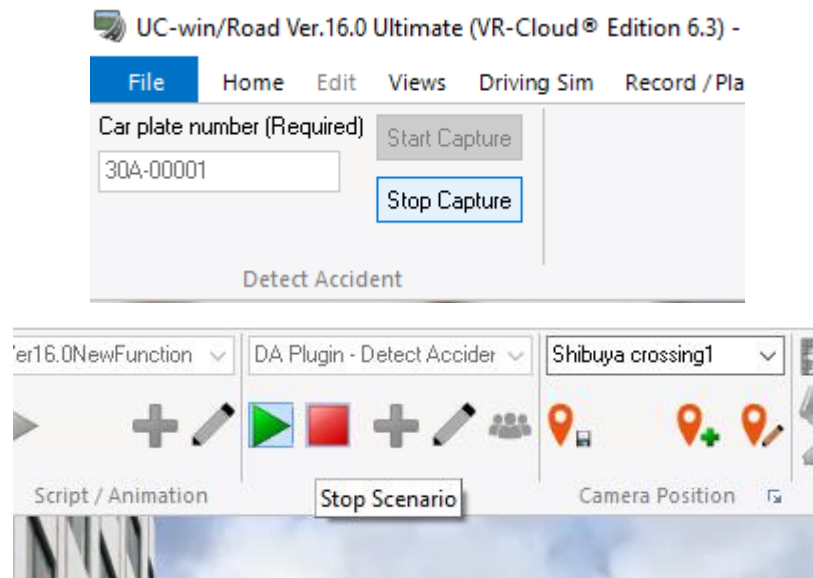
If you click on the notification in the feed, it will open Google Maps to point out the accident location.



If you want to manually submit a report, click the “Report an accident” button. If the app asks for location permission, click allow.



To stop detecting accident in UC-win/Road, you can either click “Stop Capture” in the plugin menu or stop the scenario.



Note that if you stop the scenario, an error popup below from the plugin may appear. You can safely dismiss it.

