RELEASE HIGHLIGHTS PEDESTRIAN DYNAMICS 4.1

INCONTROL

Release Pedestrian Dynamics® 4.1

“SMALL IMPROVEMENTS MAKE A BIG DIFFERENCE”

Pedestrian Dynamics® 4.1 is a minor release.
Several bugs are fixed and improvements are made to increase the user friendliness of the software. The BIM import has been improved too and new documentation is available to support making videos and understanding the density output. Adjustments have been made for windows 11. For technical details, see the release notes.

Improvements of the software:

- Increased user friendliness
- BIM improvements
- New physical distancing feature
- Extra documentation

User friendliness

To increase the user friendliness several improvements are made that will help in model building, collecting data for an experiment but also gives you an overview and control over the visualization.

1. Extra 'save' message:
From now on you will be asked if you want to save the model when closing Pedestrian Dynamics®

2. Easily stop experiments:
You can now stop the execution of an experiment making sure the output files of the current experiment are saved

Extra Buttons are added:
- 'Send to back' and 'Bring to front' buttons for the selected elements
- Button for the selection toolbar of the layout to quickly hide elements of a specific type

3. Destroy Trigger:
A destroy trigger is added in the Agent Generator. This is triggered just before an agent is erased after his last activity. This allows you for example to log relevant data of the agent in an user table.

4. Toggle visibility of the clock in the 2D & 3D window

5. Visualization improvements:
- When selecting an agent during the run you can determine what information is visualized of the agent such as; the agents, corridor, indicative route, view field, the attraction and retraction point, and the agent velocity
- Add meaningful color to 3D visualization when using a skeleton to model the agent. From now on the 3D skeleton model of an agent can be based on the agent's profile color or density
- To enhance the 3D visualization of a model can now attach a 3D model to a transport subtype to resemble a train wagon or a bus

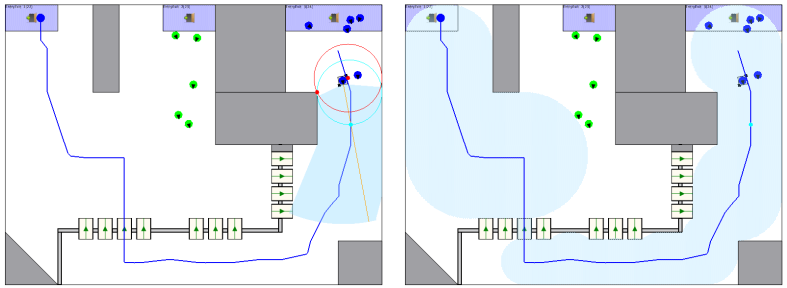

Figure 1: A) (left) Show View field, indicative route, attraction and retraction point of the agents. B) (right) Show corridor and indicative route and attraction retraction points of the agent.

BIM improvements

When building crowd models set-up the environment is always the first step. This should be done automatically as much as possible. Projects often start with an import of a CAD model but BIM models become more and more available. When an Autodesk Revit® model is available this can also be exported as an ifc (BIM).
To improve our BIM import we have made the following improvements:

- The BIM import was included in our Model3D import tool. To make sure users can easily find how to import a BIM model we have made a separate button in the main menu modeling page to import BIM models.
- Improved the speed of the BIM import tool
- The BIM import tool created all the height layer with zloc equal to zero. Since the elevator element uses the zloc-property of the height Layer to determine the arrival time at the different floors this is not practical. From now on options are available to use the proposed zloc-properties of the imported height layers. You can also adjust these easily.

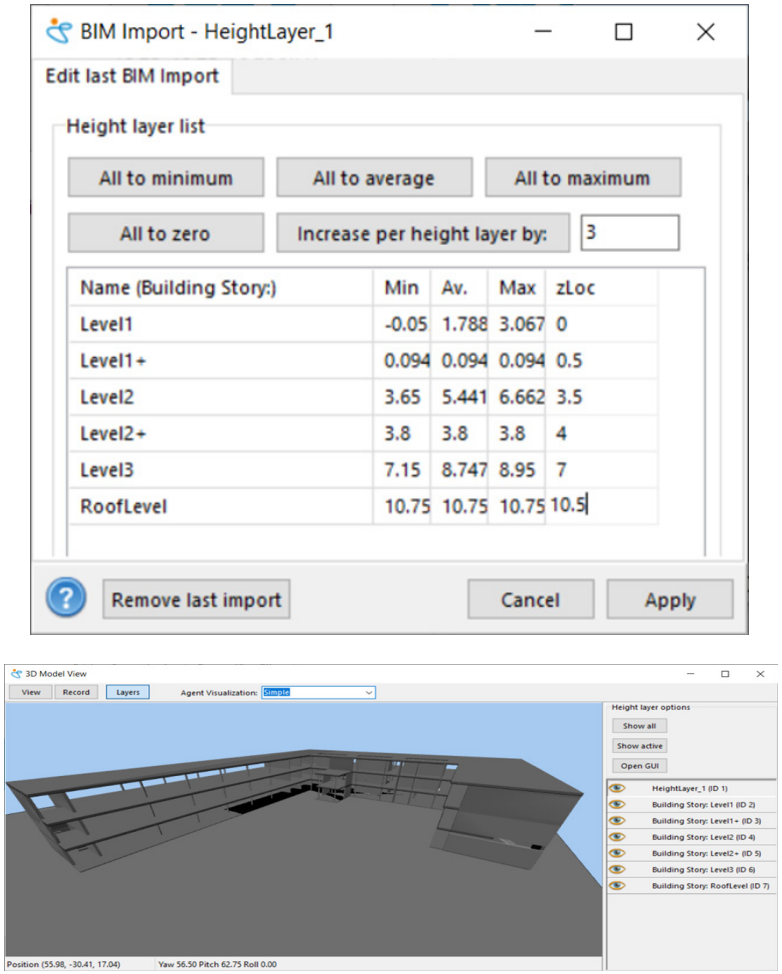

Figure 2: Set correct height of imported layers

Physical Distancing

Around the world we still struggle with the effect of the COVID-pandemic. Already in Pedestrian Dynamics® 4.0 we introduced the physical distancing algorithm and included output to examine the proximity of agents.
We have added the feature to easily model seating areas when applying physical distancing.

Due to physical distancing often not all seats in a area are used. Several properties have been added to a Stand section to easily indicate which seats can be used and which should be unavailable.

Documentation

Several improvements to our documentation are made. We have restructured our 'Help' file making it easier to find tutorials and 'How to guides' on specific topics. These tutorials are now also easily accessible as PDFs via a drop down menu on the 'Help' tab. We also added complete new documentation:

- A new guide "How to record a video of your simulation"
- Documentation for the Stands section overview/occupancy window
- Documentation for the Editing the camera positions.
- A new handbook "Handbook density calculation in Pedestrian Dynamics®"

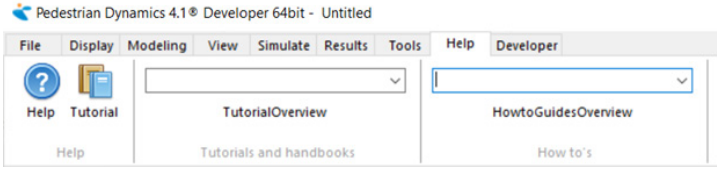

Figure 3: Drop down menus on the Help menu to get access to specific tutorials and 'How to' guides