Presentation SimWalk Airport

Optimize landside passenger dynamics in airports
Prepare your airport infrastructure for the next step
What is the use of SimWalk Airport?

- Planning of optimal future airport infrastructure developments
- Identifying bottlenecks and solutions to complex operational problems and planning tasks
- Improving terminal capacity without reduction of operational quality
- Identifying the most efficient and cost-effective options
Optimization of passenger & airport design interaction

- Airports have to be efficient and resilient to rising capacity needs and passenger numbers
- Passenger simulation allows to improve the efficiency of airport designs and the operational interaction between flight schedules, airport design and passenger movement
- Simulation of airport processes and objects (check-ins, security checks, baggage reclaim etc.)

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Key features

- Analysis of various terminal layouts and operational strategies
- Simple and straightforward modeling with predefined modules
- Realistic passenger behaviour and highly detailed personal properties (e.g. comfort distance, walking speed, etc.)
- Passenger flows directly respond to layout changes
- Comprehensive analysis options and online charts
Comprehensive object set for airport simulation

- SimWalk Airport integrates all simulation objects and interactions needed for the accurate modeling of airport dynamics
- Including escalators, stairs, elevators, moving walkways etc.
- Smart activity routing, including traveling, shopping, queuing and attractivity/danger areas
- Group modeling
Re-usable airport devices and objects with model library

SimWalk Airport includes an extensive airport device and objects library (security checks etc.) to create new and re-use existing operational devices.
Shopping behavior simulation

- Simulate shopping behavior in airports based on location, proximity, shop preferences, flight schedules and routing
- Evaluate footfall, attractive locations, marketing opportunities and actionable insights
- Direct relation of crowding and stress levels to retail revenues
Other retail factors to be evaluated by simulation

- Effect of store allocation with higher retail revenue in more accessible positions
- Business passenger and tourists with different route knowledge and shopping behavior
- Direct relation of crowding and stress levels to retail revenues
Traffic modeling and airport/rail link simulation

- SimWalk Airport can be extended with traffic modeling capabilities around airports as well as air / rail link simulation
- Simulation of multimodal hubs (airport, train, metro, bus, traffic) with all the dynamics involved
- High performance computing allows to model large scenarios in close to real-time
Normal flows and evacuation behaviour of passengers

- SimWalk Aiport delivers modeling of normal flows as well as evacuation and emergency behaviour
- Hazard features allow to simulate fires or explosions and respective passenger behaviours during simulation run time
- With the Event/Action Handler emergency exits and other actions can be controlled
SimWalk Airport 360 – the permanent airport model

- SimWalk-360 is a permanent, comprehensive airport model that provides on-demand simulation analysis
- Can be integrated with other airport applications and management systems
- Based on service level agreements and hosted on the cloud with specified user access
Cloud and high-performance computing capabilities

- 64-bit architecture and parallel processing provide high performance computing on desktop workstations
- Optional cloud and high-performance cluster computing allow scalable simulation calculation
- Permanent model SimWalk-360 based on real-time HPC computing
SimWalk Airport modeling & simulation loop

1. Plan adaptation
2. Data analysis
3. Model building
4. Analysis
4. Simulation

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Summary

- Passenger simulation software, deployed worldwide by airport authorities and consultancies
- Comprehensive feature set for the effective and fast passenger dynamics simulation and analysis of airport terminals
- Provision of near real-time simulation through high-performance computing capabilities