

PedFlow

Crowd simulation and pedestrian analysis software

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Poor crowd management is unsafe and costly

A Case for Security: the “Love Parade”



- Popular electronic dance music festival and parade in Germany
- More than 1 million participants were expected despite a maximum venue capacity for 250,000
- As the crowd grew, overcrowding ensued at key points in the parade route causing the masses to panic as they tried to escape a narrow tunnel leading to the festival
- The resulting chaos caused more than 510 injuries and 21 deaths

A Case for Cost Savings & Revenue Generation: Black Friday Crowds



- Black Friday discounts bring huge crowds that are known for chaotic behavior
- Crowd-sensitive design of retail spaces for events of this nature can make stores safer, improve customer experience, and can increase exposure to high margin items

Mass panic, herd mentality, and stampedes are particularly dangerous.

PedFlow makes designs safer and more efficient

PedFlow is a pedestrian flow management and crowd dynamics software that simulates the movements of crowds in real scenarios or hypothetical situations to help users understand pedestrian behavior.

PedFlow Features

- Uses parallel processing to **quickly simulate the movements of large crowds** in various scenarios from infrastructure capacity analysis to evacuation planning and crisis response
- Simulations are conducted in a matter of hours, compared to other products which take days, weeks, or even months
- Creates **behaviorally accurate predictions** taking into account the specific behavior of people of different cultures, sizes, ages, etc.

PedFlow helps customers in 3 key ways

- 1 Safety** Test the safety and capacity constraints of buildings and infrastructure
- 2 Efficiency** Estimate crowd movements and reduce structural waste
- 3 Customer Experience** Increase customer exposure to revenue generating features

The team brings together a diverse set of skills



Dr. Rainald Löhner - Technical Advisor

- Distinguished Professor at George Mason University
 - Director of the Center for Computational Fluid Dynamics
 - Prof. Löhner developed PedFlow over the last 14 years, bringing together years of flow dynamics research and software engineering expertise
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Maria Löhner - CEO

- 2 year in private equity at HarbourVest Partners, 2 years at Citi in the M&A team
- Experience in financial modeling and project management
- Speaks German (fluent), Spanish (fluent), and French (conversant)



Rob Hamill - Client Relations & Sales Lead

- 5 years in consulting at Deloitte Consulting, LLP
- International work experience with clients including governments, NGOs, etc.
- Speaks Spanish (fluent), French (fluent), and Haitian Creole (fluent)



Kaline Brückner Saab - Operations/R&D

- 2 years in consulting at BCG, 5 years at Volkswagen
- Expertise in product development processes and project management
- Speaks German (fluent), Spanish (fluent), French (fluent), and Chinese (basic)

The PedFlow algorithm is fundamentally different

Making it more accurate and faster than competitors, saving customers both time and money.

PedFlow Advantages

- **Superior Technology:** Competitors would require more than a year of professional software development to create a comparable product
- **Real Time Analysis:** PedFlow can analyze more than 3 million pedestrians in real time
- **Scalability:** PedFlow can be scaled to multiple computer workstations

Client Case Study: Mecca

- SL Rasch (a German architectural bureau) used PedFlow to design the infrastructure improvements at Mecca
- PedFlow was used to simulate the millions of pilgrims that attend the holy site each year
- Before using the software Prof. Löhner and SL Rasch tested the software in the field by doing live person tests, the results of which yielded the same design implementations
- The software was subsequently enhanced to account for special circumstances e.g. persons with physical disabilities, wheelchairs, and vehicles

PedFlow needs capital to be a market leader

In the next 6 months, the most critical activities are customer acquisition and the development of the Graphical User Interface (“GUI”).

Activity	Duration	Cost	Description
GUI Development	9 months	\$150,000	Recruit an engineer to develop an intuitive Windows-based GUI in May
Strategic Partnerships	6-12 months	-	Meet with potential partners (i.e., architectural firms, security consultancies, construction engineers, etc.) to build sales and implementation relationships
Customer Acquisition	Ongoing	\$10,000	Meet with and pitch product to potential clients in target markets, including event planners, venue managers, and public sector organizations
Web Development & Branding	2 months	\$4,000	Hire a low-cost developer and designer to design marketing materials and to build a basic website