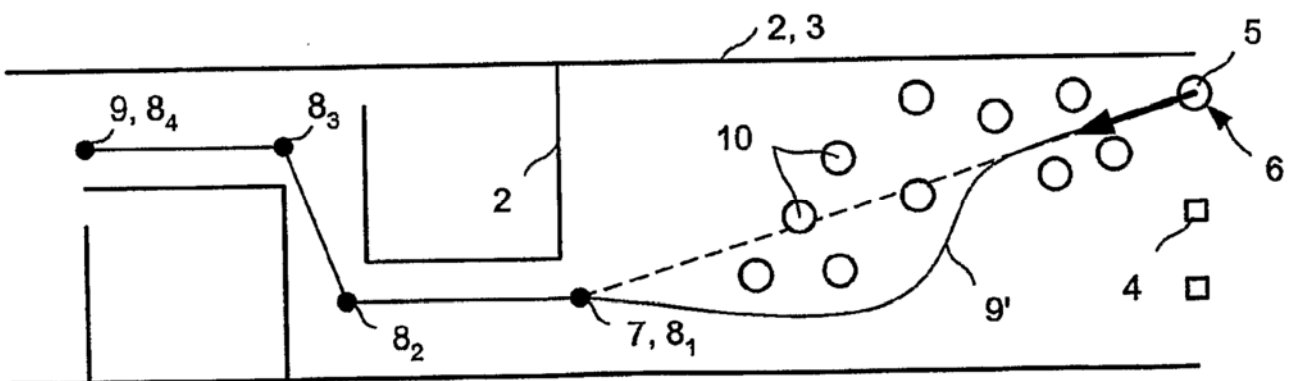


G1/19 Referral to Enlarged Board of Appeal

Chris Mercer

Simulation Of The Movement Of An Autonomous Entity Through An Environment



A designer creates an architectural venue design (2,3), specifies the constituents of a pedestrian population (5,10) that is typical for the venue being designed, and performs a number of simulations of pedestrian flows (6-9). The simulation results are then examined and the design is revised if necessary.

- PCT Application filed 9 September 2003
 - Search performed by EPO listed 2 X documents D1, D2 relating to “microscopic modelling of pedestrian flow”.
 - Demand filed
 - IPRP argued distinguishing features lacked inventiveness over D1:
 - (a) determining a preferred step [of the autonomous entity through an environment] comprises determining a first dissatisfaction function for expressing a cost of taking a step comprising a sum of an **inconvenience function** for expressing a cost of deviating from a given direction and a **frustration** for expressing a cost of deviating from a given speed, - “**purely abstract**”
 - (b) a personal space is determined around the autonomous entity – **obvious versus D1**.
 - (c) it is determined whether the preferred step is feasible by considering whether obstructions infringe the personal space – **obvious versus D1**.
-

- 2 examination reports based on D1, D2 and newly cited D5 (related to D2)
 - “Modelling pedestrian dynamics by treating each pedestrian as a particle abiding the laws of Newtonian mechanics is well known.”
 - 3rd party observations citing 19 NPL documents – none of which were regarded by EPO as novelty destroying
 - Invitation to attend Oral Proceedings
 - Lack of Clarity
 - D2 and D5 referenced as common general knowledge
 - “**The goal of achieving a more realistic simulation is not considered to be a technical problem.**”
 - Refusal envisaged for lack of technical contribution with reference to specific distinguishing technical features.
 - Refusal of Main and 1st-3rd auxiliary requests for being non-technical and without **any** reference to cited documents.
-

- Main Request – as before
- 1st Request – defines a building rather than an environment
- 2nd Request – adds preferred walking speed and walking speed noise
- 3rd Request – adds displaying simulation snapshots
- 4th Request – 3rd Request + revising the model (manually)
- 5th Request – 3rd Request + compromise step in case preferred step is not feasible

- “A technical effect could be present if the design of the steps, i.e. the simulation method, was motivated by technical considerations of the internal functioning of the computer on which it is implemented.”
- “Such technical considerations appear not to be present here.”
- “Hence, if its implementation on a computer were to be considered the only technical aspect of the claimed method, the conclusion would be that the method lacks inventive step over a known general-purpose computer.”

- Were the Board to follow decision T 1227/05, it would have to acknowledge that some or all of the steps of the simulation method of claim 1 contribute to a technical effect of the invention and could thus not be ignored when assessing inventive step. It would hence be necessary to compare the invention with prior art other than a general-purpose computer. Such prior art is available but was not considered in the decision under appeal. The Board would therefore remit the case to the Examining Division for further prosecution.
 - In T 453/91 from which T 1227/05 deviates, the Board had insisted on the addition of a step of "materially producing the chip so designed" to a method for designing a chip, because the claims rejected by the examining division concerned methods that could be interpreted as delivering a mere design which did not exist in the real world and which could or could not become a real object.
 - The Board noted that the approach of T1227/05 has so far not been widely adopted.
 - The Board intends to deviate from T 1227/05 so that the uniform application of the law is at issue.
-

1. Can the computer-implemented simulation of a technical system or process solve a technical problem by producing a technical effect which goes beyond the simulation's implementation on a computer, if the computer-implemented simulation is claimed as such?

2A. If the answer to the first question is yes, what are the relevant criteria for assessing whether a computer-implemented simulation claimed as such solves a technical problem?

2B. Is it a sufficient condition that the simulation is based, at least in part, on technical principles underlying the simulated ted system or process?

3. Do these answers change, if the computer-implemented simulation is claimed as part of a design process, in particular for verifying a design?

- The group are of the view that, while the answer to for example, question 2B might not be a simple “yes” or “possibly”, it is important that EPI would submit an amicus curiae brief detailing the technical principles of a simulated system which could contribute to the patentability of a simulation.
- Teleconferences have already been conducted and a physical meeting of a working group is to be arranged to begin the preparation of a paper.

Thank you
for your attention!