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Datasheet for the decision
of 3 May 2012

Case Number: T 0531/09 - 3.5.01

Application Number: 03776901.5

Publication Number: 1563406

IPC: G06F17/00

Language of the proceedings: EN

Title of invention:
SECURITY CHECKPOINT SIMULATION

Applicant:
Accenture Global Services Limited

Headword:
Checkpoint simulation/ACCENTURE

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
"Inventive step (no)"
"Simulation"

Decisions cited:
T 0208/84, T 0306/04, T 1227/05, T 1265/09

Catchword:
See point 3

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Boards of Appeal

Chambres de recours

Case Number: T0531/09 - 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 3 May 2012

Appellant:
(Applicant)

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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted 2 October 2008
refusing European patent application No.
03776901.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: S. Wibergh
Members: P. Scriven
             P. Schmitz

Summary of Facts and Submissions

I.   The Examining Division, by decision posted on 2 October
        2008, refused European patent application 03776901.5
        for lack of inventive step. This appeal is against that
        decision.

II.   The Board arranged oral proceedings, and explained, in
        an annex to the summons, why it tended to agree with
        the Examining Division. It also made some comments
        regarding Articles 84 and 123(2) EPC.

III.   The appellant responded by letter dated 3 April
        2012. It submitted a new main and a new auxiliary
        request, each comprising new sets of claims, 1 - 14.

IV.   Oral proceedings were held on 3 May 2012. The appellant
        confirmed its requests as the following: that the
        decision under appeal be set aside and that a patent be
        granted on the basis of the main request or auxiliary
        request, as filed with the letter dated 3 April 2012.

V.   Claim 1 according to the main request reads as follows.

        *1. A system for simulating a security checkpoint for
        screening passengers and their carry-ons, the system
        having:*
            *a. a security checkpoint model (200) representing
        time spent in the security checkpoint as a series of
        probabilistic events, and*
            *b. a simulation application for simulating said
        security checkpoint model (200), said simulation
        application operating on a computer system,*
            *whereby the improvement in the security checkpoint
        simulation system comprises:*
            said security checkpoint model (200) including

separate sets of probabilistic events representing:

a security checkpoint entrance process (110) referring to a process in which a person enters a security checkpoint entrance (110),

a personal screen process (120) referring to a process in which one or more personal scans (120a) of the person who has entered the security checkpoint entrance (110) are carried out, the one or more personal scans (120a) being performed by a walk through metal detector,

an item screen process (130) referring to a process in which one or more item scans (130a) of the items belonging to the person who has entered the security checkpoint entrance (110) are carried out, the one or more item scans (130a) being performed by a scanning device, in particular, by an x-ray device, and a defined relationship between the security checkpoint entrance (110), personal screen (120), item screen processes (130),

wherein the system is adapted to define one or more tasks in a security checkpoint,

each task having an associated output time value representing a delay caused by undertaking that task, and wherein the delay value for a task can be altered as necessary to represent changes in the tasks, and wherein the delay value is dynamically linked to other checkpoint conditions, and wherein the delay time value associated with a task is conditionally determined by the results of a previous task,

the system further being adapted to run a checkpoint simulation using security checkpoint data (321) and security checkpoint demand data (331) and to produce the simulation results (630);

and wherein

the system further comprises a display device (500)

for graphically displaying the results of the security model (200) along with a graphical representation of events and positions in the security checkpoint (100).

VI.   Claim 1 according to the auxiliary request reads as follows.

1. A computer simulation system for simulating a security checkpoint for screening persons and their carry-ons to optimize checkpoint equipment requirements, the security checkpoint including:
- item screen areas (130) including scanning devices for scanning carry- on items of the persons to be loaded (201) into the scanning devices including an x-ray device;
- personal screen areas (120) including rapid testing devices for scanning of the persons including a walk through metal detector;
the computer simulation system having:
a. a security checkpoint model (200) representing time spent in the security checkpoint as a series of probabilistic events, and
b. a simulation application for simulating said security checkpoint model (200), said simulation application operating on a computer system,
whereby the improvement in the security checkpoint simulation system comprises:
said security checkpoint model (200) including separate sets of probabilistic events representing:
a security checkpoint entrance process (110) referring to a process in which a person enters a security checkpoint entrance (110),
a personal screen process (120) referring to a process in which one or more personal scans (120a) of the person who has entered the security checkpoint en-trance (110) are carried out, the one or more personal

scans (120a) being performed by the walk through metal detector,

an item screen process (130) referring to a process in which one or more item scans (130a) of the items belonging to the person who has entered the security checkpoint entrance (110) are carried out, the one or more item scans (130a) being performed by the x-ray device, and

a defined relationship between the security checkpoint entrance (110), personal screen (120), item screen processes (130),

wherein in the computer simulation system are defined one or more tasks for each of the time screen areas (130) and the personal screen areas (120),

each task having an associated output time value representing a delay caused by undertaking that task, and wherein the delay value for a task can be altered as necessary to represent the varying of machinery or personnel used in the task,

the task comprising task variables including data that affects other, subsequent tasks, whereby the delay time value associated with a task may be condition-ally determined by the results of a previous task,

wherein the data from one task are used as a factor in a formula dynamically determining the time delay value for another task,

the computer simulation system being adapted to compute a delay time value encountered by the person in the security checkpoint based on the task,

wherein the security checkpoint model (200) is used to provide checkpoint equipment requirements balanced against checkpoint demand and service level.

VII.   The appellant's relevant written and oral arguments can be summarized as follows.

The invention provided a simulation tool, which allowed specific security systems to be simulated. It allowed, for example, an assessment of machine and staff requirements, particularly when some change was envisaged, such as the introduction of special checks on liquids carried by air passengers. The skilled person was an industrial engineer, who was in a position analogous to that of the designer of a production line in a car manufacturing plant. With both the present invention and the production line, the engineer was concerned with arranging mutually dependent tasks in an efficient way. In the security checkpoint, the tasks involved screening people and their belongings, and each task was characterised by a delay; delay being a technical matter, at least when technical equipment was involved. The screening process involved such equipment in the forms of a walk-through metal detector and an x-ray device. The effect of individual delays on the overall time it takes to screen one person was not easy to assess, because the resolution of alarms raised during one screening task may need to wait for other tasks to be completed, and the invention provided a technical tool which allowed such effects to be determined.

The simulation, on a computer, was a technical simulation of a technical entity, in terms of specified variables and specified relations between them. It was not an abstract simulation, but a concrete one implemented in a specified manner. The situation was the same as in T 1227/05, *Circuit simulation I*/INFINEON TECHNOLOGIES, OJ EPO 2007, 574.

Decision T 1227/05 did not contradict decision T 208/84 *Computer-related invention/VICOM*, OJ EPO 1987, 14, but

rather developed it. T 208/04 considered only the
question of exclusions under Article 52(2) and (3) EPC,
but not of inventive step. T 1227/05 established that
when a technical entity was simulated, the technical
nature of the thing simulated could contribute to
inventive step.

In T 0306/04, *Scheduling tasks/HONEYWELL*, not published
in the OJ EPO, it was held (at point 4 of the reasons)
that "Technicality may result ... from the
implementation of planning and scheduling procedures on
a computerised system or, for example, from the
purposive use of such a procedure to control a
technical process." The simulated checkpoint was a
technical process and the simulation was carried out on
a computer, and so this decision also supported the
arguments in favour of inventive step.

Reasons for the Decision

1.   The invention concerns the simulation of a security
        checkpoint. It could be the sort of familiar security
        checkpoint used at airports, but is not limited to
        that. The simulation is carried out by
        computer. According to claim 1 of the main request,
        tasks at the checkpoint are modelled as probabilistic
        events, each taking a certain time to perform, which
        may depend on what happens in preceding tasks. Two of
        the tasks simulated involve technical equipment, namely
        a walk-through metal detector and (possibly) an x-ray
        device.

2.   The appellant seeks to rely on T 1227/05, which
        concerned the simulation, on a computer, of an
        electronic circuit. The basis of the appellant's

argument is that the organisation of a security checkpoint, at least in so far as it comprises technical scanning devices, is a technical problem, because it lies in the field of "industrial engineering". As a technical problem, and following T 1227/05, this contributes to inventive step.

3.   In decision T 208/84 the board held (at point 5 of the reasons) that a technical process is different from a mathematical method in that the technical process is carried out on a physical entity and provides, as its result, a certain change in that entity. That definition of technical processes seems to exclude simulations, whose very purpose is to replace physical entities by virtual ones. T 1227/05 goes beyond the earlier decision in holding (at point 3.1.1 of the reasons) that the simulation of an adequately defined class of technical items could be a functional technical feature. In T 1265/09 *Call center/IEX*, not published in the OJ EPO, the Board (at point 1.13 of the reasons), referring to T 1227/05, left open the question whether it is a sufficient condition for a simulation to be patentable that the simulated items be technical, noting that the simulated system (in that case, call handling in a telephone call center) was not technical, so that the condition did not hold. The present Board finds itself in a similar situation and will proceed in the same way. For the reasons set out below, the Board finds that the condition is not fulfilled in the present case, and so there is no need to decide whether or not it is sufficient.

4.   Simulation of a checkpoint is not inherently technical. It can be carried out by asking people to queue and undergo various checks. The simulations of the metal detector and the x-ray device are the same as

that of any other task at the checkpoint, whether they
involve technical equipment or not: a probabilistic
delay, dependent on the results of earlier tasks, and
variable to allow for changes in tasks. The idea is
that each task at the checkpoint takes some time, but
that later tasks may take more or less time depending
on what happens in earlier tasks. The metal detector
and x-ray device are not modelled any differently from
any non-technical tasks, and it is not a technical
delay which is modelled, but a non-technical: the
queuing of people , rather than, say, the length of
time the metal detector and x-ray device take to react
to a stimulus. The Board does not see how any technical
delay of the detectors contributes to the delay of a
person in the queue. That might happen if, for example,
a person had to stand in the scanner for any length of
time, but that is not so with a walk-through
detector. The delay to the person results rather from
standing in a queue and waiting for an operator to
respond. The same goes for the x-ray device. The Board,
therefore, rejects the appellant's arguments that the
simulations of the metal detector and of the x-ray
device make a technical contribution to the
invention. They would not count in favour of inventive
step, even if T 1227/05 were followed. For the same
reasons, consideration of T 306/04, also cited by the
appellant, does not lead to any different conclusion.

5.   The Board sees claim 1 according to the main request as
       defining a simulation, on a computer, of a non-
       technical process, which happens to include some
       technical devices, and considers that the only feature
       that makes a contribution to inventive step is the fact
       that the simulation is performed on a computer.

6.   It is common ground that simulation on computers was
        well known, and that software for that purpose was
        commercially available at the priority date (published
        application, page 26, lines 3 - 5). The Board concludes
        that to run this particular simulation on a computer
        would have been obvious.

7.   Thus, the main request cannot be allowed due to lack of
        inventive step (Article 56 EPC 1973).

8.   The appellant explained during oral proceedings before
        the Board, that claim 1 according to the auxiliary
        request did not raise any different issues regarding
        inventive step. The differences were there in order to
        take account of comments the Board had made regarding
        Articles 84 EPC 1973 and 123(2) EPC in the annex to the
        summons to oral proceedings. The Board agrees that that
        questions regarding inventive step are no different,
        and concludes that the auxiliary request cannot be
        allowed for the same reasons as the main.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

T. Buschek   S. Wibergh

Decision electronically authenticated