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Datasheet for the decision
of 19 July 2006

Case Number: T 0359/03 – 3.5.01

Application Number: 95910376.3

Publication Number: 0752135

IPC: G06F 17/60

Language of the proceedings: EN

Title of invention:
Computerized stock exchange trading system

Patentee:
Belzberg, Sydney H.

Opponents:
OM Technology AB
Reuters Limited
VERSUS Technologies Inc.

Headword:
Computerized trading system/BELZBERG

Relevant legal provisions:
EPC Art. 54(2), 56, 123(2)

Keyword:
"Novelty – main request (no)"
"Inventive step – first to third auxiliary requests (no)"
"Extension of subject-matter – fourth to twelfth auxiliary requests (yes)"

Decisions cited:
T 0898/91

Catchword:
–

Case Number: T 0359/03 **-** 3.5.01

D E C I S I O N
of the Technical Board of Appeal 3.5.01
of 19 July 2006

Appellant:
(Patent Proprietor)

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Decision under appeal:

Decision of the Opposition Division of the European Patent Office posted 23 January 2003 revoking European patent No. 0752135 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: S. Steinbrener
Members: W. Chandler
              P. Schmitz

Summary of Facts and Submissions

I.   This appeal is against the decision of the opposition
        division to revoke European patent No. 0 752 135.

II.   The opposition division found that the opposition of
        opponent 01 was not admissible. On the basis of the
        admissible oppositions of opponents 02 and 03, the
        opposition division held that claim 1 of all requests
        was either not new or not inventive over the Mesa
        program, which was considered as being publicly
        available before the priority date of the patent in
        suit and which was described in the following documents:

        D26: MESA User's Guide, Release 1.5, first edition
             printed 1993, Athena Design Inc., Boston, MA
        D27: MESA Programmer's Guide, Release 1.5, first edition
             printed 1993, Athena Design Inc., Boston, MA

III.   The proprietor lodged an appeal and, with the statement
        of grounds of appeal, filed a main and first to fifth
        auxiliary request (identical to those submitted at the
        oral proceedings before the opposition division), and
        sixth to tenth auxiliary request. Opponent 02
        (respondent 02, hereafter merely "respondent") filed a
        response.
        Both parties made an auxiliary request for oral
        proceedings.
        Respondent 03 (opponent 03) made no submissions as to
        the merits of the present case.

IV.   At the oral proceedings, which were attended by the
        appellant and the respondent, the appellant requested
        that the decision under appeal be set aside and that

the patent be maintained on the basis of the main request or first or sixth auxiliary request, filed with the statement of grounds of appeal, or second to fifth or seventh to tenth auxiliary request filed during the oral proceedings.

The respondent requested that the appeal be dismissed.

At the end of the oral proceedings, the Chairman announced the decision.

V.   Claim 1 of the main request (corresponding to claim 1 as granted) reads as follows:

"A computer system having means to receive data from a central computer (50) of a stock exchange on a spreadsheet (56);
display means and means to communicate orders to the order entry system (60) of the stock exchange computer, a control system (58) comprising means to read selected groups of said data from said spreadsheet;
means (58) to format said selected groups of said data in a manner acceptable to the stock exchange computer order entry system;
means (46, 58) to launch said formatted data as orders to the stock exchange computer order entry system."

In claim 1 of the first auxiliary request, the last feature is modified to read "means (46, 58) to launch said formatted data as orders for trading a basket of shares to the stock exchange computer order entry system".

In claim 1 of the second auxiliary request, the penultimate feature of the first auxiliary request is modified to read "means (58) to format said selected

groups of data for transmission to an order entry
system of the exchange, the formatting involving
converting each stock price and volume of the selected
groups of data from the spreadsheet into a
corresponding variable for insertion into a list of
preprogrammed commands which is to be sent to the order
entry system of the stock exchange".

Claim 1 of the third auxiliary request adds in
substance to the end of claim 1 of the second auxiliary
request the feature "wherein said means to read, means
to format, and means to launch are operated by means of
a graphic user interface with display means and a mouse
adapted to communicate to selected controls on the
graphic user interface".

Claim 1 of the fourth auxiliary request adds in
substance to the end of claim 1 of the third auxiliary
request the feature "in which said graphic user
interface displays commands (34) which include share
symbols (36), price selections (44), order size, and
transaction types (38-42)".

Claim 1 of the fifth auxiliary request adds to the end
of claim 1 of the fourth auxiliary request the feature
"with a dynamic data link to the spreadsheet which
causes the spreadsheet to read the list of stocks to
the control system".

Claim 1 of the sixth to tenth auxiliary requests
corresponds in substance to claim 1 of the first to
fifth auxiliary requests, respectively, with the
addition of the words "into which the user inputs
trading data" at the end of the opening paragraph.

VI.   The appellant argued as follows:

The invention was very advantageous even if only one
kind of stock was to be traded. The trader simply
inserted the required trading data, like sell when the
price was 10% above a given value, into a spreadsheet
using a few mouse clicks. The trading criteria could be
a function of the contents of any cell or group of
cells in the spreadsheet, and the system would perform
the desired trade when the conditions were met. This
insertion of the trading criteria could be done without
using any further programming language. The trader
could change any or all the trading data at any time,
if desired, without having to communicate with the
software company that programmed the custom application.

Mesa was not a trading system, but a spreadsheet
program. The Mesa user manual, D26, was four hundred
pages long and only page 275 mentioned trading in
connection with the SIGNAL function. However, this
function only allowed a single trade. There would have
to be a custom application for each trade each
involving two functions, a signal and an action
programmed to respond to the signal.
Mesa had a Mesa Object Library Interface (MOLI) that
permitted writing custom applications in objective-C.
Such a custom application read ticker data from the
spreadsheet and put it somewhere in a format not
disclosed in D26 or D27. The custom programmer was
informed by the trader, in natural language, under
which conditions and for what a price he wanted to buy
or sell a stock. The programmer inputted this data
somewhere into the custom application, not into the

spreadsheet. The data did not have the format of the
data in the Mesa spreadsheet. The C program generated a
signal, which also did not have the format of a cell of
the spreadsheet. Thus it was not the spreadsheet data
that was sent to the entry system of the stock exchange
computer, and D26 and D27 did not even suggest
formatting the spreadsheet data directly as claimed in
claim 1.
Mesa also required a C-compiler, which was not required
in the patent.

In claim 1 of the first auxiliary request, the
additional feature of trading a basket of shares was a
technical difference because the number of shares
affected how the trading system operated. When trading
a basket of shares, an analysis was made for the
composite group. Thus, in accordance with the invention,
a single command could result in several orders.

Claim 1 of the second auxiliary request provided
further technical features. Again the prior art did not
disclose or suggest the special kind of conversion of
the spreadsheet data into a corresponding variable for
insertion into a list of pre-programmed commands.

The additional features of claim 1 of the third
auxiliary request, namely using a graphic user
interface with display means and a mouse, made the
system easier to use.

The items displayed by the graphic user interface
according to claim 1 of the fourth auxiliary request
were originally present in claim 5. Original claim 1
covered both embodiments, so that the combination of

claims 1 and 5 supported the amendment. These features improved the flexibility of the system.

The dynamic data link in claim 1 of the fifth auxiliary request enabled the system to work unattended.

The additional feature in claim 1 of the sixth to tenth auxiliary requests defined that the user inputted trading data into the spreadsheet. This was supported by the patent at column 2, lines 54 to 58, which stated that the computer could react to information or commands from the operator. Furthermore, Figures 3A and 3B showed that trading data could be entered into the spreadsheet. Also the patent stated at column 5, lines 21 to 23, that the computer captured all the data necessary to trade from the spreadsheet. The trading criteria had to be entered into the spreadsheet by the user since they could not come from the stock exchange computer.

This feature made the system more flexible because it was not necessary to have a dedicated data entry page. In the Mesa system, the custom applications would have to be programmed individually by a programmer, so that the order was not entered by a user, as claimed.

VII.   The respondent argued as follows:

A custom trading application for the Mesa spreadsheet would inevitably contain the control system, means to format the data, and means to launch the data as orders according to claim 1. The claim and indeed the patent gave no details of how the data was formatted so that this could not be used to justify a difference. In fact,

the Mesa documents gave more detail than the patent
about sending messages.

In particular, D27 disclosed at page 2 that the Mesa
Object Library Interface (MOLI) allowed other programs
to get values from Mesa worksheets and "execute a
trade" in response to an event in the worksheet.
D26 disclosed the means to read selected groups of data
at page 1, paragraph 1 and page 4, last paragraph and
page 5, first full paragraph, by stating that Mesa
allowed another application to "link right into the
data in a worksheet".
D26 also disclosed at page 275 the "SIGNAL" function
which "sends a range of cells" to the program when a
particular condition was met, in order to "perform a
securities trade", for example. The trading application
would have to know the price and so this had to be sent
from the spreadsheet. The data had to be in a form
acceptable to the stock exchange computer order entry
system, so the formatting means were implicit; correct
message header, parity etc.
D27 gave an example, at pages 46 to 50, of using the
"SIGNAL" function to send a range of cells and alert
the user when particular conditions for trading were
met. This was a simple example, like a "hello world"
example used when explaining a programming language,
but the technique could be applied to the trading
situation.
The means to communicate orders was a duplication of
other features.
In view of claim 2, which specified that the launch was
responsive to conditions in the data read from the
spreadsheet, the read function in claim 1 covered the
case where data was read in order to check that these

conditions were met. This was implicit in the Mesa
"SIGNAL" function.
A Mesa custom application that executed a trade was a
"means to launch" the data.

Although decision T 641/00 could be applicable to this
case, the "normal approach" using Article 56 EPC was
preferred for attacking the feature of "trading a
basket of shares" in claim 1 of the first auxiliary
request.
This feature did not imply a single command, but it
meant simply that the system generated multiple orders.
This was obvious from the possibility of maintaining a
stock portfolio in the Mesa system, mentioned in D26,
page 4, last paragraph and D27, page 47, last paragraph.
Any other details of basket trading were well known and
the patent disclosed this at paragraphs [0006] to
[0008], and gave no further details.

The patent did not disclose any details of the "list of
preprogrammed commands" in claim 1 of the second
auxiliary request, and the associated features were
implicit from the Mesa system.

The additional features of claim 1 of the third
auxiliary request, namely using a graphic user
interface with display means and a mouse, were either
implicit from the Mesa system, e.g. D26 page 23,
penultimate paragraph, or obvious.

The share symbols in claim 1 of the fourth auxiliary
request had not been disclosed in combination with
trading a basket of shares. In the claim, the reference
36 to the share symbols was wrong and it should have

been 12. This was only in Figure 2, which related to
the first embodiment, whereas the idea of trading a
basket of shares was in the second embodiment,
represented by Figure 3, which did not show share
symbols. Although these features were in original
claim 5, the original claims did not contain the
feature of trading a basket of shares.

The use of a dynamic data link in claim 1 of the fifth
auxiliary request to read data from the spreadsheet was
a well known measure, e.g. the Dynamic Data Exchange
(DDE) described in D17 (Reuter Terminal Dynamic Data
Exchange, Reference Guide, Version 2.15, 1993, Reuters
Ltd., London) at page 2-1. In particular, the
"WM_DDE_ADVISE" command described at page 2-4 requested
a server to supply updates for monitored data whenever
it changed.

The patent did not support the feature that the user
entered data into the spreadsheet, as added to claim 1
of the sixth to tenth auxiliary requests. Figure 3A
only showed commands that controlled the system, but
not the spreadsheet. Figure 3B showed a spreadsheet,
but not that any data was entered. The patent at column
2, line 39 stated that prices were recorded on the
spreadsheet. It was not inevitable that data could be
entered by the user because the spreadsheet could have
been locked.
Since this feature was not disclosed, it did not have
any link with the other features. Moreover, user data
entry was an obvious function of a spreadsheet, e.g. as
described in D26 at page 3.

Reasons for the Decision

1.   The appeal complies with the requirements referred to
        in Rule 65 (1) EPC and is, therefore, admissible.

2.   The opposition division found that the opposition of
        opponent 01 was not admissible. Since opponent 01 did
        not file an appeal, this decision took legal effect and
        opponent 01 ceased to be a party to the present appeal
        proceedings (see decision T 898/91, not published in OJ
        EPO, point 1.2 of the reasons).

        The patent

3.   The patent concerns a system for automating the buying
        of shares having an interface running on a user's PC
        connected to a stock exchange mainframe computer
        (Figure 1). A first embodiment, shown in Figure 2, has
        a graphical user interface that enables transaction
        data, such as share symbols (12), price selections (14),
        order size (16), transaction type (22), etc., to be
        entered. A second embodiment, shown in Figure 3, has an
        interface in which data about multiple shares to be
        traded (so-called "basket of shares" – see paragraphs
        [0006] to [0008]) transferred from the stock exchange
        mainframe computer is displayed in a spreadsheet. The
        shares can be processed in a single transaction.

        The Mesa spreadsheet

4.   It is common ground that a custom application can be
        written in objective-C for the Mesa spreadsheet program
        that performs a single securities trade. D26 discloses
        at page 275 a "SIGNAL" function that performs such a

trade by sending a range of cells from the spreadsheet
to the "BUY_GOLD" object when certain conditions are
met. The object that would respond to the function
would be a MesaListen object, such as that disclosed in
D27 at pages 48 to 50, from the Mesa Object Library
Interface (MOLI).

Main request

5.   The appellant's arguments essentially only relate to
        whether the above-mentioned trading example also
        discloses means to format selected groups of data read
        from the spreadsheet in a manner acceptable to the
        stock exchange computer order entry system as in the
        third and fourth features of claim 1. The argument is
        essentially that the example does not specify the
        format or the destination of the data from the
        spreadsheet, and that the custom program, not the
        spreadsheet would specify the trading conditions, so
        that the data sent to the stock exchange computer is
        not formatted spreadsheet data as required by the claim.

6.   The Board agrees that it is true that in the Mesa
        spreadsheet somebody, e.g. a programmer, must write a
        program in order to perform the trade in the "BUY_GOLD"
        example. However, the user interface of the patent is
        also a custom program that has to be written. This user
        interface allows the trader to enter trading conditions,
        apparently via custom controls and/or via equations in
        a Microsoft Excel spreadsheet (Figure 3B). In principle,
        Mesa could also be programmed to allow this. However,
        neither the manner of programming, nor the manner of
        entering the trade are claimed, and the result of any
        such program must be data in a manner acceptable to the

order entry system of the stock exchange computer, or
else the program could not perform the trade at all. It
is also implicit that in the above-mentioned "BUY_GOLD"
example, the range of cells in the "SIGNAL" function
includes price data. Thus, the example implies that at
least some of the data sent to the stock exchange
computer is read from the spreadsheet. The Board agrees
with the opposition division that the formatting means
must also be implicit in order that this data is
acceptable to the stock exchange computer order entry
system. Thus, the Board judges that, in the Mesa system,
formatted spreadsheet data is in fact sent to the stock
exchange computer.

7.   As with the manner in which the trade is entered, the
       other aspects that the appellant discusses, such as
       formatting the spreadsheet data "directly", and not
       requiring a C-compiler, are not differences reflected
       in claim 1.

8.   Accordingly, the subject-matter of claim 1 of the main
       request is not new (Article 54(2) EPC).

       First and second auxiliary request

9.   Claim 1 of the first auxiliary request adds to the main
       request that the orders are "for trading a basket of
       shares". The claim thus differs from the Mesa system by
       this feature. The opposition division and opponent 02
       were of the opinion that this feature did not make a
       technical contribution and could not involve an
       inventive step. The Board also has doubts that the
       feature contributes to the technical character of the
       claimed system. However, in appeal oral proceedings,

the respondent switched to what he called the "normal
approach" to this feature, namely that it was obvious
in any case. In view of this and the fact that the
second auxiliary request does add technical details
concerning trading a basket of shares, the Board
prefers to start with the inventive step of the second
auxiliary request.

10.   This request further specifies that the formatting
        involves converting each stock price and volume of the
        selected groups of data from the spreadsheet into a
        corresponding variable for insertion into a list of
        pre-programmed commands which is to be sent to the
        order entry system of the stock exchange.

11.   It is effectively common ground that the object of the
        additional features of the first and second auxiliary
        requests is to enable trading a basket of shares.
        However, as the respondent points out, the Mesa
        documents mention, in D26 at page 4, last paragraph and
        D27 at page 47, last paragraph, the possibility of
        maintaining a stock portfolio. The Board considers that
        given that the requirement to trade a range of shares
        in a basket was known, it would be obvious to consider
        trading the known portfolio as a basket, i.e. to
        consider solving the above-mentioned problem.

12.   With respect to the claimed implementation of basket
        trading, the Board agrees with the opposition division
        and respondent that it is also obvious to arrive at a
        system that falls under the claimed solution. Firstly,
        the "BUY_GOLD" object in the above-mentioned example
        must issue a "command" in order to perform a trade.
        Secondly, this command must contain stock price and

volume data as "variables", at least the stock price being read from the spreadsheet as described above. Thirdly, as also mentioned above, the "variables" must be in a form acceptable to the stock exchange computer order entry system, so the formatting means are implicit. Finally, in order to solve the problem of performing multiple trades, it would be obvious to issue a sequence of such "commands". In the Board's view, this would fall under the claimed "list of preprogrammed commands" because there is no basis in the patent for a more detailed interpretation of the list of pre-programmed commands. The description is vague on this point and merely states at column 4, line 48 that the data is extracted from the spreadsheet and "inserted in a list of preprogrammed commands", without further explanation.

13.   The appellant argues that the invention allows a trader to enter the desired trading data directly into the spreadsheet. However, the details of how the data relating to the basket trading is entered are neither claimed, nor disclosed (see point 23, below). In any case, the Board considers that it would be an obvious possibility, in order to increase the flexibility of the system, to provide an order entry mask or user interface such as that the appellant refers to, so that trading criteria can be entered without any further programming.

14.   Accordingly, the subject-matter of claim 1 of the second auxiliary request, and thus that of claim 1 of the less limited first auxiliary request, does not involve an inventive step (Article 56 EPC).

Third auxiliary request

15.   Claim 1 of the third auxiliary request essentially adds
       to the preceding request the features of controlling
       the system using a graphic user interface with display
       means and a mouse. The Board agrees with the opposition
       division at point 8 of the decision that such control
       means are well known and disclosed, e.g. in D26 page 23,
       penultimate paragraph, and that it would be obvious to
       use them to control the custom application.

16.   Accordingly, the subject-matter of claim 1 of the third
       auxiliary request does not involve an inventive step
       (Article 56 EPC).

Fourth auxiliary request

17.   Claim 1 of the fourth auxiliary request adds to the
       preceding request that the graphic user interface
       displays commands which include share symbols, price
       selections, order size and transaction types.

18.   The addition of these features is an attempt to define
       the nature of the user interface, found missing in the
       previous requests. However, the Board agrees with the
       respondent that the features are not directly and
       unambiguously derivable in connection with trading a
       basket of shares as now claimed. Firstly, although
       these features were in original claim 5, the original
       claims did not contain the feature of trading a basket
       of shares, so that the combination was not originally
       claimed. Furthermore, although original claim 1 may
       have covered both embodiments, it does not support the
       specific combination of the features of the user

interface and trading a basket of shares. Concerning
the description and drawings, as mentioned above (see
point 3), the claimed commands are displayed in the
first embodiment shown in Figure 2, which does not
relate to trading a basket of shares. However, the
second embodiment shown in Figure 3, which does relate
to trading a basket of shares, only shows commands for
price selections (44) and transaction types (38-42).
The Board cannot find any disclosure of a "command" for
the share symbols or the order size. Paragraph [0027]
describes a command (36) for identifying the basket of
shares to be traded, but not for the share symbols or
the order size themselves. Similarly, although in the
spreadsheet 30 in Figure 3B, the columns "A" and "B"
have the name "SYM" and "SHS", respectively, presumably
referring to share symbol and order size, there is no
disclosure of any related commands. The same goes for
the passage at column 4, lines 37 and 38 that describes
displaying share symbol and volume as "information",
but not as "commands".

19.   Accordingly, the subject-matter of claim 1 of the
        fourth auxiliary request extends beyond the content of
        the original application (Article 123(2) EPC).

20.   In any case, the Board agrees with the opposition
        division at point 9 of the decision that these features
        would not involve an inventive step because it is a
        matter of routine design to program a graphic user
        interface according to the specific user's needs,
        namely those of a stock exchange trading system. Share
        symbol, price selection, order size and transaction
        type are all obvious aspects of trade transactions.

Fifth auxiliary request

21.   Claim 1 of the fifth auxiliary request essentially adds
        to the preceding request that the information about the
        stocks to be traded is represented as a "dynamic data
        link". Since this request also contains the undisclosed
        feature of the fourth auxiliary request, it is also not
        allowable (Article 123(2) EPC).

22.   In any case, again the Board agrees with the opposition
        division at point 10 of the decision that it would be
        obvious. The description at column 4, lines 42 to 46
        states only that the link "causes the spreadsheet to
        read the list of stocks to the multiple order trading
        system of the present invention". The Board considers
        that this can be interpreted to be the same as the
        function of the Mesa system allowing the custom
        application to "link right into the data in a
        worksheet" as disclosed in D26 at page 5, second
        paragraph. The Board agrees with the opposition
        division and respondent that dynamic data links are
        well known, e.g. from D17 at pages 2-1 and 2-4, and
        that it would be obvious to use them to read data
        either to or from the spreadsheet, without user
        intervention, as in the trading examples in the Mesa
        system.

Sixth to tenth auxiliary requests

23.   Claim 1 of the sixth to tenth auxiliary request adds
        the feature that the user inputs trading data into the
        spreadsheet. The Board again agrees with the respondent
        that this feature was not originally disclosed. As
        discussed in connection with the fourth auxiliary

request, only the embodiment shown in Figure 3 is
considered to relate to multiple order trading. However,
Figure 3A only shows commands that control the system,
but not the possibility of entering data into a
spreadsheet. Figure 3B shows a spreadsheet with
standard spreadsheet functions, but not that any data
is actually entered by the user. As mentioned above,
the description gives very few details of how the user
would enter a trade and nothing about how the user
would enter trades into the spreadsheet. The passage at
column 2, line 39 states that prices are recorded on
the spreadsheet, but not that this is done by the user.
Similarly, although the patent states at column 5,
lines 21 to 23, that the computer captures all the data
necessary to trade from the spreadsheet, there is no
unambiguous disclosure that the trading data comes from
the user. In fact, the description rather gives the
impression at paragraph [0025] that individual data
entry is eliminated according to the claimed system. It
might therefore be that the trading data comes from
somewhere else, such as another program or interface.
Consequently, the Board judges that this feature is not
directly and ambiguously derivable from the original
application.

24.   Accordingly, the subject-matter of claim 1 of the sixth
       to tenth auxiliary requests extends beyond the content
       of the original application (Article 123(2) EPC).

25.   In any case, the Board considers that faced with the
       problem of increasing the flexibility of the system, it
       would obvious to program a custom application to enable
       the user to enter the trading criteria into the
       spreadsheet.

26.   There being no further requests, it follows that the
       appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

R. Schumacher   S. Steinbrener