

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 22 February 2012**

Case Number: T 0653/08 - 3.5.06

Application Number: 04254476.7

Publication Number: 1505514

IPC: G06F 15/02

Language of the proceedings: EN

Title of invention:

Previous calculation reuse in a calculator

Applicant:

HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.

Headword:

Calculation reuse/HEWLETT-PACKARD

Relevant legal provisions:

RPBA Art. 13(1)(3)

Relevant legal provisions (EPC 1973):

EPC Art. 56, 84, 113(1)

Keyword:

"Basis of decisions - opportunity to comment (yes)"
"Amended claims admitted - yes"
"Claims - clarity (no)"
"Inventive step - no"

Decisions cited:

T 1109/02

Catchword:

-



Case Number: T 0653/08 - 3.5.06

D E C I S I O N
of the Technical Board of Appeal 3.5.06
of 22 February 2012

Appellant:
(Applicant)

HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.
20555 S.H. 249
Houston, TX 77070 (US)

Representative:

Jehan, Robert
Williams Powell
Staple Court
11 Staple Inn Buildings
London, WC1V 7QH (GB)

Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 2 November 2007
refusing European patent application
No. 04254476.7 pursuant to Article 97(1) EPC
1973.

Composition of the Board:

Chairman: D. H. Rees
Members: A. Teale
C. Heath

Summary of Facts and Submissions

I. The appeal is against the decision by the examining division, posted on 2 November 2007, refusing European patent application No. 04 254 476.7 on the basis that the subject-matter of claims 1 and 4 according to a main request and that of claim 4 according to a second auxiliary request lacked inventive step, Article 56 EPC 1973, in view of D1 and common general knowledge in the art of user interfaces, as exemplified *inter alia* by D4. The subject-matter of claim 4 according to a first auxiliary request was found to lack inventive step, Article 56 EPC 1973, in view of D1 alone. These documents are as follows:

D1: Texas Instruments: "TI-89/Voyage™ 200 Calculator Home Screen", INET, [Online], 30 May 2003, XP002308796 (45 pages).

D4: Tim Hill, "Windows NT Shell Scripting", ISBN 1578700477, 5/1998, Chapter 2 (26 pages).

II. A notice of appeal was received on 21 December 2007 requesting that the decision be set aside in its entirety. The appeal fee was paid on the same day.

III. On 3 March 2008 a statement of grounds of appeal was received together with new sets of claims according to a main and an auxiliary request. The appellant requested that the decision be set aside and an order made to grant a patent on the basis of the main or the auxiliary request. Should the board consider not accepting the main request then oral proceedings were requested.

- IV. In an annex to a summons to oral proceedings the board expressed its preliminary opinion on the appeal. In particular, the board expressed doubts as to whether the application according to the main and the auxiliary request fulfilled the requirements of *inter alia* Article 84 EPC 1973 regarding clarity and Article 56 EPC 1973 as to inventive step.
- V. With a letter received on 19 January 2012 the appellant filed amended claims according to a main and first and second auxiliary requests. The appellant also filed amended pages of the description applicable to all three requests and requested that a patent be granted on the basis of the application amended according to the main and first and second auxiliary requests. The appellant also stated that "We believe that these written submissions have addressed all of the points raised by the Board of Appeal and that these proceedings can be concluded with allowance in written proceedings or by a telephone call to the undersigned representative. If at all possible, the appellant wishes to avoid oral proceedings and would greatly appreciate the assistance of the Board of Appeal in concluding these proceedings in writing. Nevertheless, should the Board of Appeal not be minded to allow the appeal in this manner, our request for oral proceedings still stands."
- VI. The registry of the board issued a communication on behalf of the board dated 26 January 2012, stating that the oral proceedings would take place as arranged and that, in view of the arranged oral proceedings, the board regarded it as inappropriate in the present case

to discuss substantive matters with the appellant by telephone.

VII. In a letter received on 7 February 2012 the appellant stated that it would not attend the oral proceedings.

VIII. Claim 1 according to the main request reads as follows, the passage in **bold** indicating the passage replaced according to the first auxiliary request:

"A hand-held calculator (100) enabling reuse of a previous expression, including: an input area (104) for receiving at least one user-entered expression; a display (102) connected to the calculator (100) for displaying the at least one user-entered expression received at the input area (104) and an evaluated expression, the display including a command line; the input area (104) including a user directional input device (108) for navigating a menu and for selecting and displaying in the command line a first previously displayed expression upon receipt of a first up or down user directional input, and for selecting and displaying in the command line a second previously displayed expression upon receipt of a second up or down user directional input, and a user edit input means (108, 114) for editing an expression; a processor (204) operable to evaluate the user-entered expression received at the input area (104) and to drive the display (102) to display the evaluated expression; **the processor being responsive to solely the first up or down user directional input to reuse and to display in the command line the first previously displayed expression and to solely the second up or down user directional input to reuse and to display in the**

command line the second previously displayed expression; the processor being operable to drive the display (102) to display in the command line at the same time the first and second previously displayed expressions; the processor being operable in response to a user-entered edit input to edit the at least two previously displayed expressions and to drive the display (102) to display the edited expressions."

- IX. The text of claim 1 according to the first auxiliary request is the same as that of the main request except that the passage indicated in **bold** above has been replaced by the following passage:

"the processor being responsive to solely the first up or down user directional input to display in the command line the first previously displayed expression and subsequently being responsive to an intermediate function input at the input area (104) followed by solely the second up or down user directional input to append the second previously displayed expression after the intermediate function to the first previously displayed expressions to thereby display, at the same time, in the command line the first previously displayed expression followed by the intermediate function followed by the second previously displayed expression".

- X. The text of claim 1 according to the second auxiliary request is the same as that according to the main request except that the passage "a memory (206) for storing each previously displayed expression in a memory stack in reverse chronological order;" has been inserted after the expression "for editing an

expression;", the passage ", wherein after selection and display in the command line of the first previously displayed expression the processor is responsive to an up or down user directional input to allow the user to step backward through the previously displayed expressions in the memory stack starting from the first previously displayed expression" has been inserted after the expression "to display in the command line the second previously displayed expression" and the expression "in the command line" has been deleted from the expression "to display in the command line at the same time the first and second previously displayed expressions".

XI. The claims according to the main and first and second auxiliary requests also comprise an independent method claim 4 setting out a method of reusing an expression in a hand-held calculator.

XII. At the end of the oral proceedings the board announced its decision.

Reasons for the Decision

1. Admissibility of the appeal

In view of the facts set out at points I to III above, the board finds that the appeal is admissible.

2. The request for a telephone discussion with the board

2.1 In the letter received on 19 January 2012 the appellant essentially requested a telephone discussion with the

board, presumably with the rapporteur, to discuss the allowability of the requests on file. As established in the case law of the boards of appeal, as a matter of principle, the EPC foresees the absolute right to oral proceedings under Article 116(1) EPC 1973, but not the right to a telephone discussion (cf. Case Law of the Boards of Appeal of the EPO, 6th edition, 2010, VII.B.2.7.2 concerning interviews with the department of first instance, in particular).

2.2 As to appeal proceedings, Articles 4 and 5 RPBA (Rules of Procedure of the Boards of Appeal of the European Patent Office, OJ EPO 2007, 536) provide that certain steps in the proceedings may be taken by the rapporteur. Where this is the case the rapporteur's duties consist of either ensuring, under the board's supervision, that the procedural rules or the directions of the board of appeal are complied with by the parties, or, where it comes to substantive matters (Article 5(3) RPBA), of acting on behalf of the board. This, in other words, implies that the other members of the board have been informed and put in the position to give an informed opinion on the action to be taken. To this end it is important that the same case is presented to all of the board's members. If one of the board's members were privy to evidence or arguments not available to the other members then this would be a breach of the principle of collective decision making and would be in conflict with Article 21 EPC 1973; see T 1109/02 (not published in OJ EPO, reasons, point 1).

2.3 Since the requested telephone discussion could have led the rapporteur to take a position on an issue where a collective decision would have been required, or to

commit the board without preliminary discussion, the request was refused as not being compatible with the above mentioned principle and rules governing appeal proceedings.

- 2.4 In the letter received on 19 January 2012 the appellant also requested that oral proceedings be avoided and the proceedings concluded in writing. The board finds that a further communication concerning substantive matters by the board after the summons to oral proceedings was not necessary. Under Rule 100(2) EPC the board shall invite the parties "as often as necessary" to file observations. In the present case oral proceedings were arranged as requested by the appellant and because it was the most efficient procedural course of action to be taken at this stage. Moreover the board had already raised objections regarding *inter alia* clarity and inventive step against the claims then on file in the annex to the summons to oral proceedings. Some of these objections still applied to the claims of the appellant's new main and first and second auxiliary requests. Thus the board did not issue a further communication.

3. *The appellant's absence at the oral proceedings*

- 3.1 As announced in advance, the duly summoned appellant did not attend the oral proceedings.
- 3.2 The purpose of oral proceedings is to give the party the opportunity to present its case and to be heard. However a party gives up that opportunity if it does not attend the oral proceedings. By filing amendments to the application in response to the summons to oral

proceedings and then not attending those oral proceedings, as occurred in this case, the appellant must also expect a decision based on objections which may be raised against such amendments at the oral proceedings in its absence, Article 15(3, 6) RPBA.

- 3.3 In accordance with Article 15(3) RPBA, the board relied for its decision on the appellant's written submissions. The board was in a position to decide at the conclusion of the oral proceedings, since the case was ready for decision (Article 15(5, 6) RPBA), and the voluntary absence of the appellant was not a reason for delaying a decision (Article 15(3) RPBA).

4. *The introduction of D4 by the first instance*

The appellant has complained that D4 was only introduced into the first instance proceedings at the oral proceedings, so that the appellant's ability to consider and discuss D4 was severely restricted. The appellant has not however argued that the short time available for studying D4 amounted to a loss of the right to comment, Article 113(1) EPC 1973. Moreover, according to the minutes of the oral proceedings, the appellant's representative did not complain about too little time being available to study D4, but rather that no instructions could be obtained from the applicant as to how to comment on D4. The representative also did not request an adjournment of the oral proceedings and has not requested that the minutes be corrected. Given these circumstances, the board finds that the introduction by the examining division of D4 in the oral proceedings complied with the requirements of the EPC.

5. *The context of the invention*

5.1 The application relates to simplifying the entry of instructions by a user into a hand-held calculator, such devices typically requiring highly complicated key entries to specify modes, expressions and values. The invention seeks to allow previously entered expressions or previously calculated results to be displayed simultaneously, combined, edited and entered. This makes the calculator easier to use. Previously displayed expressions are stored in memory in a stack which can be stepped through to select an expression using a directional input device to move up or down the stack.

5.2 In the only example of the claimed combination of two results or user-entered expressions given in the application (see page 11, line 26, to page 12, line 26) the user scrolls through the stack to reuse and display "expression B", then selects the function "+" and scrolls through the stack to reuse and display "expression A". The user then presses the "Execute" key to evaluate the composite expression.

5.3 The claims use the phrase, "to reuse and to display [an] expression". The board notes that "reuse" and "display" are not the same thing in the context of the application. There is a process of selection. Expressions are temporarily selected, and displayed in the command line, by activating the up or down directional input. Each time the up or down key is activated the temporary selection, and what is displayed, changes. The process of selection is

terminated, the last displayed expression thereby being selected for reuse, by activating any other key.

6. *The amendments to the appellant's case, Article 13 RPBA*

6.1 According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion. The discretion shall be exercised in view of *inter alia* the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy. Under Article 13(3) RPBA amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the board cannot reasonably be expected to deal with without adjournment of the oral proceedings.

6.2 In the present case the board is satisfied that the amendments are directed to overcoming the objections raised by the board in the annex to the summons to oral proceedings, the limited extent of the amendments being such that the board was readily able to assess their effect. Hence the board admitted the main and first and secondary auxiliary requests into the procedure.

7. *Clarity, Article 84 EPC 1973*

7.1 Claim 1 according to the main and second auxiliary request sets out that the processor is "responsive to solely the first up or down user directional input to reuse and to display in the command line the first previously displayed expression and to solely the second up or down user directional input to reuse and to display in the command line the second previously

displayed expression" (emphasis added by the board).
The board finds that the second instance of the term
"solely" leads to a lack of clarity of these claims.

7.2 As pointed out in the annex to the summons to oral proceedings regarding the claims then on file, the second use of the term in claim 1 of the present main and second auxiliary requests "solely" makes these claims unclear in the light of the description, since it contradicts the example given in the description. According to page 11, line 26, to page 12, line 26, the function "+" terminates the scrolling mode as far as user-entered expression B is concerned and starts it for user-entered expression A. In other words, according to the description, the selection of the second user-entered expression for reuse and display does not occur solely in response to the second up or down user directional input; an intermediate function ("+") is also required.

7.3 The appellant has disputed whether such a contradiction exists, arguing that the calculator according to the application, particularly the "pseudo-code" bridging pages 13 and 14, does not require that the scrolling mode be terminated before a previously displayed expression is selected for reuse and display. According to the pseudo-code, if a key press is up or down, then irrespective of the previous key press, the current selection is inserted into the command line without a further key press being required. The use of function "+" does not of itself select a previously displayed expression for re-use, but changes the manner in which subsequently selected previously displayed expressions are added to the command line. According to the pseudo-

code, if the key press is up or down and the last key press was not up or down (for example if the last key press was the function "+"), then the difference is that a newly selected previously displayed expression is inserted into the command line at the place of the cursor, instead of replacing the last inserted selection. Thus the processor will re-use and display in the command line the first previously displayed expression in response to solely the first up or down user directional input, and will re-use and display in the command line the second previously displayed expression in response to solely the second up or down user directional input. The board finds that the appellant's arguments confirm the board's preliminary opinion, rather than disproving it. As the appellant has pointed out, if the key press is up or down and the last key press was not up or down (for example if the last key press was the function "+") then it is not the first previously displayed expression that is now selected by pressing up or down but the second previously displayed expression. In other words, the wording of claim 1 of the main and second auxiliary request omits an essential feature, namely the intermediate function, and thus is unclear in the light of the description.

- 7.4 The board finds that claim 1 according to the first auxiliary request overcomes this objection by setting out the entry of an "intermediate function" after the selection and display of the first previously displayed expression and before the selection and display of the second previously displayed expression, this amendment having a basis on page 11, line 27, to page 12, line 2, of the description as originally filed. In this context

the board has interpreted the second instance of the expression "solely" in claim 1 to mean that the up or down user directional input changes the second previously displayed expression currently displayed.

7.5 Hence the board finds that claim 1 according to the main and second auxiliary requests lacks clarity, Article 84 EPC 1973.

8. *Document D1*

8.1 It is undisputed that D1 forms the closest prior art. D1 is an extract from the handbook of the TI-89 and Voyage™ 200 calculators from Texas Instruments. D1 concerns the "Calculator home screen" of the device which is "the starting point for math operations, including executing instructions, evaluating expressions, and viewing results"; see page 3, lines 2 to 4. As shown on pages 5 and 6, in particular in the figure on page 6, the calculator home screen comprises an "entry line" where expressions or instructions are entered and a "history area" showing pairs of previous entries and answers. Using the "Auto-Paste" function a previous entry or answer can be reused by editing and re-executing it; see pages 18 to 25. To recall a previous entry the user scrolls through the list of previous entries in the history area using the "Up" and "Down" keys to highlight the desired item and then presses the "Enter" key to insert the item in the entry line; see pages 24 and 25.

8.2 In the example given in D1 the cursor is first placed at the desired place in the entry line in which a first mathematical expression is already present (step 1),

the "Up" key is pressed to move the cursor into the history area (step 2), the entry to be auto-pasted is highlighted, i.e. displayed, with the "Up" and "Down" keys (step 3) and by pressing "Enter" the highlighted item is inserted into the entry line (step 4). In the board's view the calculator known from D1 is also capable of auto-pasting two items from the history area into the entry line, it being implicit that some sort of intermediate function may be required between the two items to form a valid calculator instruction.

- 8.3 In terms of claim 1 of the first auxiliary request, D1 discloses: a hand-held calculator enabling reuse of a previous expression, including: an input area (calculator keys) for receiving at least one user-entered expression; a display connected to the calculator for displaying the at least one user-entered expression received at the input area and an evaluated expression, the display including a command line (entry line); the input area including a user directional input device (see page 24, up and down arrows) for navigating a menu and for selecting and displaying a first previously displayed expression upon receipt of a first up or down user directional input, and for selecting and displaying a second previously displayed expression upon receipt of a second up or down user directional input, and a user edit input means (see page 25, last paragraph) for editing an expression; a processor operable to evaluate the user-entered expression received at the input area and to drive the display to display the evaluated expression; the processor being responsive to solely the first up or down user directional input to display the first previously displayed expression (see page 13, lines 7

to 10), the processor being operable to display, at the same time, in the command line the first and then the second previously displayed expressions, the processor being operable in response to a user-entered edit input (see page 19, third paragraph) to edit the at least two previously displayed expressions and to drive the display to display the edited expressions.

9. *First auxiliary request, inventive step, Article 56 EPC 1973*

9.1 Interpreting the term "solely" as set out in point 7.4 above, the subject-matter of claim 1 differs from the disclosure of D1 in the following features:

- a. the processor ... display[s] the first previously displayed expression in the command line (in D1 the expression is highlighted in the history area, otherwise the process is the same);
- b. the processor is subsequently responsive to an intermediate function input at the input area to end the selection of the first previously displayed expression (in D1 "Enter" must be activated before any intermediate function, and at the end of selection the highlighted expression is also copied from the history area to the command line);
- c. the processor ... display[s] the second previously displayed expression in the command line (the difference is the same as in feature "a") and

- d. the second previously displayed expression is appended after the intermediate function to the first previously displayed expressions in the command line.
- 9.2 According to the appealed decision, the objective technical problem was to provide an "improved" user interface, the claimed solution reducing the number of keystrokes needed for re-using a previously entered expression. The relevant skilled person was a person skilled in the art of user-interfaces. The appellant has challenged the objective technical problem given in the decision and argued that it should be the simplification and speeding up of calculations in a hand-held calculator.
- 9.3 The board finds that the technical problem given in the decision cannot be regarded as the objective technical problem, since it begs the question of what is, technically speaking, an "improved" user interface? However the board is also not convinced that the problems proposed by the appellant, the simplification and speeding up of calculations in a hand-held calculator or making reuse of previous calculations in a hand-held calculator easier, can be properly regarded as the objective technical problem either, since they are overly broad, and it is questionable (see point 10.4 below) whether they are solved by the claimed invention. The board finds that the objective technical problem is that derivable from the description (see page 4, lines 18 to 19), namely to provide an alternative solution to the reuse of previous calculations in a hand-held calculator, in itself an obvious problem starting from D1.

- 9.4 As to the claimed solution, the board is not convinced that the assertion in the decision that a person skilled in the art "will always seek to design the user-interface in such a way that a minimal number of keystrokes is needed to perform a given function" is necessarily true in all cases. The user of a hand-held calculator must have an understandable conceptual model of how the calculator is to be operated; see the structure of three key combinations discussed on page 3, lines 1 to 9, of the description of the application. Although it may be possible to realize a calculator using arbitrary short sequences of keystrokes to perform a given function, users would have difficulties using or remembering such functions. However as will be seen below, the board does take the view that in this particular context using a shorter key sequence would have been obvious to the skilled person anyway.
- 9.5 Turning to the difference features set out above, the board finds that the features "a", "c" and "d", the displaying of the currently selected first and second previously displayed expressions, separated by the intermediate function, in the command line, as set out in claim 1, rather than the moving of a highlighted area around the history area to select the desired expressions and then only displaying them in the entry line once they have been selected, as is the case in D1, have an effect which only concerns a presentation of information (see Article 52(2) EPC). They therefore do not contribute to the technical character of the claimed subject matter and are thus unable to contribute to inventive step.

9.6 Feature "b" does not relate to the selection of previously displayed expressions *per se* but rather to how the selection mode is terminated and switched from the first previously displayed expression to the second previously displayed expression. Hence its contribution to inventive step must be assessed separately from those of features "a" and "c". In D1 the highlighted first previously displayed expression is finally selected for reuse by pressing the "Enter" key (see page 25, lines 1 to 3) whilst, according to feature "b", the selection of the first previously displayed expression becomes final when an "intermediate function" is entered. The skilled person starting from D1 and seeking to provide an alternative solution to the reuse of previous calculations in a hand-held calculator would have been aware that the editing of previously displayed expressions in D1 to form a new expression for evaluation by the calculator (see pages 24 to 25, in particular the "+" symbol at the end of the first expression shown in the entry line on page 24) can involve an intermediate expression between the first and second previously displayed expressions. It would moreover have been apparent to the skilled person that pressing "Enter" after having selected the first previously displayed expression was superfluous in such a case, since the "+" function shown in the entry line on page 24, also marks the end of the first previously displayed expression, and its entry would of itself be a clear indication that the user did not want to scroll further through the previously used expressions, but rather wished to use the one currently selected (highlighted). In this particular case therefore, the board agrees with the first instance that the skilled person would have omitted the "Enter"

step in an obvious manner to reduce the number of keystrokes required and thus make the calculator less laborious to use.

9.7 The appellant has argued the use of an "intermediate function" has the further advantage of avoiding input errors by reducing the likelihood that the user places one previously displayed expression immediately adjacent to (or interposed within) another previously displayed expression without, for example, a mathematical operator, such a textual combination making little syntactic and mathematical sense. In D1, the insert function is implemented as would be expected in a computing system. The selected expression is inserted wherever the cursor happens to be so that an additional displayed expression can be inserted anywhere in the command line without an intermediate function. The board is not convinced by this argument, since this advantage does not always accrue. The board accepts that there may be cases according to the invention, for instance expressions A and B shown on page 4 of the description separated by "+" (i.e. "1+2*4/(5*6+4)" "+" "1*7/4+58-44/56"), where two previously displayed expressions separated by an intermediate function such as "+" form a valid expression for evaluation by the calculator. However the application provides no definition of the term "intermediate function" so that there are also cases, for instance the same expressions A and B separated by "X^Y" (see figure 1; key 134) where such a combination would require further editing to produce a valid expression. Equally the board can easily imagine cases where a user might want to interpose one expression inside another before possible editing for evaluation,

so that the alleged advantage would also sometimes be disadvantageous.

- 9.8 The appellant has argued that, as D1 is a user manual intended to be precisely followed, the skilled person, seeking to avoid a loss of functionality, would not contemplate modifying it. The board is not convinced by this argument, as the relevant disclosure is that of the calculator itself as described in D1, rather than the operating instructions given in D1. Moreover the board can see no reason to assume that modifying the calculator described in D1 would always result in a loss in functionality. On the contrary, certain modifications could yield added functionality.
- 9.9 The appellant has argued that the options open to the designer of the calculator known from D1 would have been comparable to those available to the inventor of the calculator of the present application, and the designer in D1 had not sought to design a user interface to minimise key strokes. The board points out that neither the designer of the calculator known from D1 nor the inventor of the calculator of the present application can be equated with the notional skilled person used to assess inventive step. Moreover the fact that the claimed subject-matter differs from the disclosure of D1 is not sufficient to prove that the claimed subject-matter also involves an inventive step, Article 56 EPC 1973.
- 9.10 The appellant has argued that the extra "Enter" key strokes necessary in D1 to end the scrolling mode are desirable because they provide "thinking time" so that the skilled person would be inclined not to remove them.

The board is not convinced by this argument. As the user has to remember to press the "Enter" button again, it is doubtful whether this time can be considered as "thinking time", particularly because how the time is used depends on the user. Some users may see the extra key strokes as making the calculator needlessly laborious to use. Further, the supposition that the extra "Enter" step in D1 may be desirable would not support an argument that there is an inventive step involved in removing it. It is well-established case law of the Boards of Appeal that modifying an existing arrangement to obtain an advantage (for example, greater simplicity) while accepting a resulting disadvantage is not of itself inventive.

9.11 The board consequently finds that the subject-matter of claim 1 does not involve an inventive step, Article 56 EPC 1973, in view of D1 alone.

10. *Conclusion on the appellant's requests*

Since none of the main and first and second auxiliary requests is allowable, it follows that the appealed decision cannot be set aside.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

B. Atienza Vivancos

D. H. Rees