Exploring the Methods of Artificial Intelligence Development on Accounting Bookkeeping System

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Abstract. Today, information technology such as artificial intelligence and big data is developing at a rapid pace, and the requirements for financial professionals are also evolving with the times. The role of accountants is quietly changing in enterprises. The future trend is already predictable: the number of general accounting staff engaged in basic finance, auditing and taxation will gradually decrease. Will accountants be replaced by artificial intelligence? This is no longer a fantasy, but a topic that accounting professionals need to face and think about. Based on this, this paper explores the development of artificial intelligence on the accounting bookkeeping system approach.

Keywords: Artificial Intelligence, Accounting Work, Bookkeeping Systems

1. Introduction

Artificial intelligence will bring infinite possibilities for human beings to come. In such a situation, where will humans be located? We have to accept the fact that not only technology is changing, but also the profession of accounting is changing and cannot stop at mastering the existing accounting skills. Companies are not short of financial accountants, or accountants who can calculate loans and borrowings. They need accountants with high skills that will perhaps be replaced by artificial intelligence in the future [1].

2. Anatomy of the impact caused by the integration of artificial intelligence technology into accounting
The integration of artificial intelligence technology in the field of accounting seamlessly connects the business system and OA system to achieve intelligent processing of all aspects of accounting work, especially in the flow, reporting and posting, the addition of artificial intelligence technology ensures accurate processing, which greatly reduces the workload of accountants. The online management technology realizes the real-time transmission of accounting data, which enhances the accuracy and timeliness of financial information and prevents the emergence of financial crises due to time lag in data information, which frees a large number of staff from the tedious accounting process and gives them enough energy to think about how to optimize the company's financial system [2].

Before the integration of intelligent technology, accounting was mainly carried out by staff members, who mainly obtained information about the company's financial operations through post-facto verification in order to reduce workload. However, this approach resulted in companies not being able to grasp their own economic situation in real time, especially when they lacked timely information to support major economic decisions, and managers carried out huge amounts of financial activities based on their own feelings, which could lead to failed decisions and plunge the company into economic crisis. The big data computing function of intelligent technology can realize tens of millions of calculations per second, which eliminates the need for manual calculations and provides important data support for economic activities [3].

The traditional way of accounting has forced companies to recruit more accounting staff in order to ensure the efficiency and quality of their financial work. With the addition of artificial intelligence, the data originally calculated manually by the computer backstage operation, quick various links, but also through online transmission and storage, greatly reducing the demand for personnel in accounting work. Therefore, low-level accounting work practitioners will be replaced by artificial intelligence and face the danger of being laid off and unemployed. However, artificial intelligence technology requires high-level accounting work practitioners, and these senior people will be skilled in operating artificial intelligence software and be able to discover the drawbacks of business operation through the analysis results of intelligent software [4].

![Figure 1. Impact](image-url)
Manual calculation and storage of accounting original materials situation may have data calculation errors, original books of accounts lost and other problems, the database in artificial intelligence technology can store a large number of original accounting documents, even if the paper version of the documents are lost, you can find out the relevant transaction information from the electronic documents. However, the use of AI technology has brought about an electronic information crisis. The company stores all financial vouchers in electronic form in a database, and once the database is hacked, it may lead to all information being stolen over damaged. In today's rapidly changing cyber security world, companies must take protective measures while enjoying the dividends of technology to avoid huge financial losses due to cyber attacks [5].

3. The way of deep integration of artificial intelligence and accounting industry

With the incorporation of artificial intelligence taking the place of simple calculation and management accounting practitioners, companies will eliminate some of their lower-level accounting practitioners to reduce the cost of operations. Accountants must change from labor-oriented to intelligent if they do not want to be replaced by artificial intelligence. Accounting practitioners should keep up with the times, learn advanced management concepts, gain insight into the market frontier, and update their knowledge base according to market changes. Accountants should constantly enrich their knowledge about cost control to provide the theoretical basis for enterprises to effectively reduce operating costs and make scientific decisions. With technology leading the way, society's demand for talents is getting higher and higher, and accountants can only keep pace with the times and not be eliminated by the market if they become compound talents [6].

Artificial intelligence technology has unlimited potential, and today there is a huge development value of artificial intelligence, accounting is a system discipline, involving mathematics, statistics, management and many other areas of knowledge, artificial intelligence today only in the field of mathematics and statistics, for the management field has not been involved. Accounting practitioners to develop computer cloud computing and big data functions, so that intelligent technology supported by sufficient data to make certain predictions about the development of the company's business operations, the feasibility and effectiveness of the decision of business managers to analyze, and put forward personalized corrective measures. These highly intelligent tasks contemporary artificial intelligence technologies have not been able to reach and require accounting practitioners to research and develop relevant skills [7].

4. Design and implementation of the accounting reconciliation system

4.1. Design philosophy

According to the actual situation of the unit and the actual needs of the user, the following process is used to realize the reconciliation needs of the finance department. The user can input the year to be reconciled, and the reconciliation system will take out the account income and expenditure details of that year according to the SQL statement to the [accounting bookkeeping table] of the database, and then merge with the data extracted from the Excel file of that year generated by the financial system, and finally get the reconciliation report of the subject income and expenditure accounts and the accounting system accounts [8].
4.2. Difficulties in program implementation

In order to avoid the problems of omissions and mistakes brought by manual bookkeeping, and to ensure the accuracy and efficiency of the later reconciliation, the Accounting Bookkeeping System was written to create bookkeeping tables, project tables, user tables, etc. In the process of writing this system, the following issues are to be considered [9].

1) How to take out the data of [accounting bookkeeping table] in the database and put it into the record set.

2) How to retrieve the data from the Excel file generated by the accounting system output into the defined recordset.

3) How to load the data into the table on the screen.

4) Combine the data record set in the database and extract the data record set from the Excel table to generate a report.

If the above four problems are solved, the reconciliation function can be effectively implemented. In this paper, we write the code in VB6.0 and use Microsoft Access database to realize the function of the above problems [10].

Create a Microsoft Access database (ExclP.mdb): create only the [Accounting Bookkeeping Table] table related to this paper, with fields [Bookkeeping ID], [Project], [Date], [Summary], [Income], [Expense], and [Balance]. Prepare the Excel file (Accounting (2010) .xls) for the accounting system output, as shown in the table below.

| A          | B                  | C              | D                  | E                   | F                  |
|------------|--------------------|----------------|--------------------|---------------------|--------------------|
| 1          | Project            | Opening balance (debit) | Opening balance (credit) | Debit for current period | Credits for the current period | Ending balance |
| 2          | Light of the West001 | 0              | 0                  | 0                   | 80000              | 80000             |
| 3          | 2008K02-G6         | 0              | 276.46             | 0                   | 0                  | 276.46            |
| 4          | 2009K10-G1         | 0              | 20304.31           | 20304.31            | 0                  | 0                 |
| 5          | 2008K-01           | 0              | 900.83             | 0                   | 0                  | 900.83            |
| 6          | 2008SY-02          | 0.8            | 0                  | 0                   | 0.8                | 0                 |

5. Difficulties

5.1. Take out the database and put it in the recordset
Connecting to a database with ADO (referencing Microsoft ActiveX Data Objects 2.0 Library in a VB6.0 project) is done with SQL statements. The code of the Find_Rec function gives a generic procedure for querying data in a database to return a set of records. The caller gives four parameters: table name, query field item, sort item, and condition string to query the database, and the list of queries is returned to the recordset given by the caller. For example, the above example returns to the user-defined ListRec recordset.

5.2. Fetch data from an Excel table into a defined set of records

Application and Excel. Workbook objects (in VB6.0 project reference Microsoft Excel 9.0 Object Library). The procedure is as follows.

' Extract the data from the Excel table into the recordset (Excel table and recordset ' must have the same number of columns and

' The first column of the Excel table is considered to be the end of the first three consecutive rows without data, the first column is empty ' The other columns of data will not be taken.

(The first row of the Excel table is not taken into the recordset as a field name. ' Parameter Description: NameStr (full path file name of Excel table); 'Vs_Rs (empty recordset into which data is put).

Public Sub GetExcelRec (NameStr As String, Vs_Rs As Recordset)
...
' Omit the check Excel table path code

Set ExlApp = New Excel.
ExlApp.Visible = False
ExlApp.DisplayAlerts = False

Set ExlBook = ExlApp.Workbooks.Open (FileName:=NameStr, AddToMru:=False)
...
' Omit the code to loop through the Excel table data

ExlBook.Close False
ExlApp.Quit
Set ExlBook = Nothing

Set ExlApp = Nothing End Sub

The above code for the GetExcelRec procedure gives a generic procedure on how to take data from an Excel table and assign it to a recordset. The caller gives two parameters 4.2 Fetching data from an Excel sheet into a defined recordset

Application and Excel.Workbook objects (referenced in the VB6.0 project as Microsoft
Excel 9.0 Object Labrary). The procedure is as follows.

' Extract the data from the Excel table into the recordset (Excel table and recordset ' must have the same number of columns and ' the first column of the Excel table without data in three consecutive rows is considered the end, the first column is empty ' other columns of data will not be taken.

(The first row of the Excel table is not taken into the recordset as a field name. ' Parameter Description: NameStr (full path file name of Excel table); 'Vs_Rs (empty recordset into which data is put).

Public Sub GetExcelRec (NameStr As String, Vs_Rs As Recordset)
... ' Omit the check Excel table path code
Set ExlApp = New Excel.
ExlApp.Visible = False
ExlApp.DisplayAlerts = False
Set ExlBook = ExlApp.Workbooks.Open (FileName:=NameStr, AddToMru:=False)
... ' Omit the code to loop through the Excel table data
ExlBook.Close False
ExlApp.Quit
Set ExlBook = Nothing
Set ExlApp = Nothing End Sub

The above code for the GetExcelRec procedure gives a generic procedure on how to take data from an Excel table and assign it to a recordset. The caller gives two parameters to get the data into the recordset given by the caller. The data is placed in the user defined Vs-Rs recordset as above. Create an Excel object that hides the Excel visual screen i.e. does not show the Excel prompt dialog. Open the Excel workbook and make a loop to assign each cell's data to the recordset field. If you want to combine the data into a report, you need to sort it, so you can make a sorting program to sort the unsorted recordsets.

5.3. Load the data into a list on the screen

Load the data from the recordset into a list on the screen, using the MSFlexGrid list control. This is a read-only Grid object and is relatively powerful. Add the Microsoft Hierarchical FlexGrid Control 6.0 (SP4) (OLEDB) control to your VB6.0 project.(SP4) (OLEDB) control in your VB6.0 project, you can create a list and define its properties on a Form form. Create 1. input box named TextC. 2. button named ComData. 3. list named MSFGridD. 4. input box named TextE. 5. button named ComExcel. 6. list named MSHGridE. The procedure in the Form form is shown in the following figure:
Private Sub ComData_Click
    ' Year code omitted to enter reconciliation
    '-----------------------------
    ' Set Query Data List Record Set
    '-----------------------------
    Set ListRec = Find_Rec("Accounting
statement","items, summaries, income,
expenditure, balances","items, dates ",
" date >="& Trim(TextC.Text) & "-01-01"
& " And _
date <="& Trim(TextC.Text)& "-12-31"
) ' Binding Data List
Me.Enabled = False
FormatStr = MSFGridD.FormatString
ListRec.CursorType = adOpenStatic
ListRec.Open
If(ListRec.BOF And ListRec.EOF) Then
    MSFGridD.Clear
    MSFGridD.Rows = 2
Else
    Set MSFGridD.DataSource = ListRec
End If
ListRec.Close
Set ListRec = Nothing
MSFGridD.Refresh
MSFGridD.FormatString = FormatStr
MSFGridD.Row = 1
Me.Enabled = True
End Sub
Private Sub ComExcel_Click()
    ' Error checking Data Form Name Code Excel
Accounting System Output
    ' A record set of Excel data tables output from
the accounting system is set'
Set ListRec = New Recordset
With ListRec
    .Fields.Append , adBSTR, 0
    .Fields.Append , adBSTR, 0
    .Fields.Append , adBSTR, 0 .Fields.Append ,
adBSTR, 0
    .Fields.Append , adBSTR, 0
    .Fields.Append , adBSTR, 0
    .CursorType = adOpenStatic
    .LockType = adLockOptimistic
    .Open
End With
Me.Enabled = False
GetExcelRec App.Path & "\" & Trim (ExclList, TextE.Text) , ListRec
' Binding Data List
-FormatStr = MSHGridE.FormatString
ListRec.CursorType = adOpenStatic
ListRec.Open
If(ListRec.BOF And ListRec.EOF) Then
    MSHGridE.Clear
    MSHGridE.Rows = 2
Else
    Set MSHGridE.DataSource = ListRec
End If
ListRec.Close
Set ListRec = Nothing
MSHGridE.Refresh
MSHGridE.FormatString = FormatStr
MSHGridE.Row = 1
MSHGridE.Sort = 1
Me.Enabled =
True End Sub

Procedure ComData_Click is the ComData named button click event. Implements a database data query and loads it into the MSFGridD named list. First call the above Find_Rec function to query the database data to generate the record set. Bind to the screen list and the data will be displayed in the list. The procedure ComExcel_Click is a button click event named by ComExcel. This procedure retrieves the data from the Excel table and loads it into the MSFGridE named list. First call the GetExcelRec procedure above to take the data from the Excel table to generate the recordset. Bind it to the screen list, sort it, and the data will be displayed in the list in order. Note that the recordset can be loaded into the list either in a bound or unbound way. Both have their advantages and disadvantages. The bound method is simpler to code, but the list displays the same content as the recordset, which is not flexible enough. The unbound method can use a loop statement to add data from the recordset to the list, and can add data on demand, or add data not in the recordset, which is more flexible, but the code is more cumbersome to write.

In addition, the above two procedures are to use the recordset to pass data, but there is a difference in defining the recordset: in the ComData_Click procedure, only the recordset object is defined, and the data and field contents taken out from the database by the SQL statement are assigned to the recordset object; while in the ComExcel_Click procedure, in addition to defining the recordset object, the fields
of the recordset object are also defined. The ComExcel_Click procedure defines the fields of the
recordset object in addition to the recordset object.

6. Conclusion

The development of artificial intelligence is very rapid, and will replace a large number of manual
manipulation overnight. When we are still discussing the "Big Four" to launch financial robots, central
enterprises, banks to buy financial robots in succession from us another bit of distance, "accounting
robots" has agilely appeared in our existence today. In the future, "accounting robots" using accounting
information systems bookkeeping will become a beacon of fire.

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