

# ELECTRONIC SPREADSHEET APPLICATIONS FOR FINANCIAL ACCOUNTING/BOOK AND MACINTOSH 3 1/2/ pdf

## 1: Spreadsheets | [www.enganchecubano.com](http://www.enganchecubano.com)

*Electronic Spreadsheet Applications for Financial Accounting/Book and Macintosh 3 1/2 Disk/Macintosh Version [Gaylord N. Smith, Bruce S. Koch] on [www.enganchecubano.com](http://www.enganchecubano.com) \*FREE\* shipping on qualifying offers.*

It is analogous to an array of variables in a conventional computer program although certain unchanging values, once entered, could be considered, by the same analogy, constants. In most implementations, many worksheets may be located within a single spreadsheet. A worksheet is simply a subset of the spreadsheet divided for the sake of clarity. A cell may contain a value or a formula, or it may simply be left empty. Values[ edit ] A value can be entered from the computer keyboard by directly typing into the cell itself. Alternatively, a value can be based on a formula see below, which might perform a calculation, display the current date or time, or retrieve external data such as a stock quote or a database value. In the context of programming languages, this yields a limited form of first-order functional programming. Some earlier spreadsheets required a manual request to recalculate, since recalculation of large or complex spreadsheets often reduced data entry speed. Many modern spreadsheets still retain this option. Recalculation generally requires that there are no circular dependencies in a spreadsheet. A dependency graph is a graph that has a vertex for each object to be updated, and an edge connecting two objects whenever one of them needs to be updated earlier than the other. Dependency graphs without circular dependencies form directed acyclic graphs, representations of partial orderings in this case, across a spreadsheet that can be relied upon to give a definite result. For shared, Web-based spreadsheets, it applies to "immediately" updating cells another user has updated. All dependent cells must be updated also. Locked cell[ edit ] Once entered, selected cells or the entire spreadsheet can optionally be "locked" to prevent accidental overwriting. Even though individual cells are marked as locked, the spreadsheet data are not protected until the feature is activated in the file preferences. Data format[ edit ] A cell or range can optionally be defined to specify how the value is displayed. The cell contents are not changed by this format, only the displayed value. Some cell formats such as "numeric" or "currency" can also specify the number of decimal places. This can allow invalid operations such as doing multiplication on a cell containing a date, resulting in illogical results without an appropriate warning. Cell formatting[ edit ] Depending on the capability of the spreadsheet application, each cell like its counterpart the "style" in a word processor can be separately formatted using the attributes of either the content point size, color, bold or italic or the cell border thickness, background shading, color. To aid the readability of a spreadsheet, cell formatting may be conditionally applied to data; for example, a negative number may be displayed in red. In most implementations, a cell, or group of cells in a column or row, can be "named" enabling the user to refer to those cells by a name rather than by a grid reference. Names must be unique within the spreadsheet, but when using multiple sheets in a spreadsheet file, an identically named cell range on each sheet can be used if it is distinguished by adding the sheet name. One reason for this usage is for creating or running macros that repeat a command across many sheets. Another reason is that formulas with named variables are readily checked against the algebra they are intended to implement they resemble Fortran expressions. Use of named variables and named functions also makes the spreadsheet structure more transparent. Cell reference[ edit ] In place of a named cell, an alternative approach is to use a cell or grid reference. Most cell references indicate another cell in the same spreadsheet, but a cell reference can also refer to a cell in a different sheet within the same spreadsheet, or depending on the implementation to a cell in another spreadsheet entirely, or to a value from a remote application. A typical cell reference in "A1" style consists of one or two case-insensitive letters to identify the column if there are up to columns: The alternative "R1C1" reference style consists of the letter R, the row number, the letter C, and the column number; relative row or column numbers are indicated by enclosing the number in square brackets. Most current spreadsheets use the A1 style, some providing the R1C1 style as a compatibility option. When the computer calculates a formula in one cell to update the displayed value of that cell, cell references in that cell, naming some other

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cells, cause the computer to fetch the value of the named cell. A cell on the same "sheet" is usually addressed as: A1 that is; the first cell in sheet 2 of same spreadsheet. Some spreadsheet implementations in Excel [ permanent dead link ] allow a cell references to another spreadsheet not the current open and active file on the same computer or a local network. It may also refer to a cell in another open and active spreadsheet on the same computer or network that is defined as shareable. These references contain the complete filename, such as: A1 In a spreadsheet, references to cells automatically update when new rows or columns are inserted or deleted. Care must be taken, however, when adding a row immediately before a set of column totals to ensure that the totals reflect the additional rows values which they often do not. A circular reference occurs when the formula in one cell refers directly, or indirectly through a chain of cell references to another cell that refers back to the first cell. Many common errors cause circular references. However, some valid techniques use circular references. These techniques, after many spreadsheet recalculations, usually converge on the correct values for those cells. Cell ranges[ edit ] Likewise, instead of using a named range of cells, a range reference can be used. Reference to a range of cells is typically of the form A1: A6, which specifies all the cells in the range A1 through to A6. A6 " would add all the cells specified and put the result in the cell containing the formula itself. Sheets[ edit ] In the earliest spreadsheets, cells were a simple two-dimensional grid. Over time, the model has expanded to include a third dimension, and in some cases a series of named grids, called sheets. The most advanced examples allow inversion and rotation operations which can slice and project the data set in various ways. Formulas[ edit ] Animation of a simple spreadsheet that multiplies values in the left column by 2, then sums the calculated values from the right column to the bottom-most cell. In this example, only the values in the A column are entered 10, 20, 30, and the remainder of cells are formulas. Formulas in the B column multiply values from the A column using relative references, and the formula in B4 uses the SUM function to find the sum of values in the B1: A formula identifies the calculation needed to place the result in the cell it is contained within. A cell containing a formula therefore has two display components; the formula itself and the resulting value. The formula is normally only shown when the cell is selected by "clicking" the mouse over a particular cell; otherwise it contains the result of the calculation. A formula assigns values to a cell or range of cells, and typically has the format: When a cell contains a formula, it often contains references to other cells. Such a cell reference is a type of variable. Its value is the value of the referenced cell or some derivation of it. If that cell in turn references other cells, the value depends on the values of those. References can be relative e. B3, absolute e. Modern implementations also offer functions to access custom-build functions, remote data, and applications. A formula may contain a condition or nested conditions with or without an actual calculation and is sometimes used purely to identify and highlight errors. In the example below, it is assumed the sum of a column of percentages A1 through A6 is tested for validity and an explicit message put into the adjacent right-hand cell. The best way to build up conditional statements is step by step composing followed by trial and error testing and refining code. A spreadsheet does not, in fact, have to contain any formulas at all, in which case it could be considered merely a collection of data arranged in rows and columns a database like a calendar, timetable or simple list. Because of its ease of use, formatting and hyperlinking capabilities, many spreadsheets are used solely for this purpose. Functions[ edit ] Use of user-defined function sq x in Microsoft Excel. Spreadsheets usually contain a number of supplied functions, such as arithmetic operations for example, summations, averages and so forth, trigonometric functions, statistical functions, and so forth. In addition there is often a provision for user-defined functions. In Microsoft Excel these functions are defined using Visual Basic for Applications in the supplied Visual Basic editor, and such functions are automatically accessible on the worksheet. In addition, programs can be written that pull information from the worksheet, perform some calculations, and report the results back to the worksheet. In the figure, the name sq is user-assigned, and function sq is introduced using the Visual Basic editor supplied with Excel. Subroutines[ edit ] Subroutine in Microsoft Excel writes values calculated using x into y. Functions themselves cannot write into the worksheet, but simply return their evaluation. However, in Microsoft Excel, subroutines can write values or text found within the subroutine directly to the spreadsheet.

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The figure shows the Visual Basic code for a subroutine that reads each member of the named column variable *x*, calculates its square, and writes this value into the corresponding element of named column variable *y*. The *y* column contains no formula because its values are calculated in the subroutine, not on the spreadsheet, and simply are written in.

**Remote spreadsheet[ edit ]** Whenever a reference is made to a cell or group of cells that are not located within the current physical spreadsheet file, it is considered as accessing a "remote" spreadsheet. The contents of the referenced cell may be accessed either on first reference with a manual update or more recently in the case of web based spreadsheets, as a near real time value with a specified automatic refresh interval.

**Charts[ edit ]** Graph made using Microsoft Excel Many spreadsheet applications permit charts, graphs or histograms to be generated from specified groups of cells that are dynamically re-built as cell contents change. The generated graphic component can either be embedded within the current sheet or added as a separate object.

**Multi-dimensional spreadsheets[ edit ]** In the late s and early s, first Javelin Software and Lotus Improv appeared. Unlike models in a conventional spreadsheet, they utilized models built on objects called variables, not on data in cells of a report. These multi-dimensional spreadsheets enabled viewing data and algorithms in various self-documenting ways, including simultaneous multiple synchronized views. For example, users of Javelin could move through the connections between variables on a diagram while seeing the logical roots and branches of each variable. A complex model can be dissected and understood by others who had no role in its creation. In these programs, a time series, or any variable, was an object in itself, not a collection of cells that happen to appear in a row or column. Variables could have many attributes, including complete awareness of their connections to all other variables, data references, and text and image notes. Calculations were performed on these objects, as opposed to a range of cells, so adding two time series automatically aligns them in calendar time, or in a user-defined time frame. Data were independent of worksheets' variables, and therefore data, could not be destroyed by deleting a row, column or entire worksheet. This permits actions later used in pivot tables, except that flexible manipulation of report tables was but one of many capabilities supported by variables. Moreover, if costs were entered by week and revenues by month, the program could allocate or interpolate as appropriate. This object design enabled variables and whole models to reference each other with user-defined variable names, and to perform multidimensional analysis and massive, but easily editable consolidations.

Trapeze, [32] a spreadsheet on the Mac, went further and explicitly supported not just table columns, but also matrix operators.

**Logical spreadsheets[ edit ]** Spreadsheets that have a formula language based upon logical expressions, rather than arithmetic expressions are known as logical spreadsheets.

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## 2: Brief History of Spreadsheets, v.

*Electronic Spreadsheet Applications for Financial Accounting/Book and Macintosh 3 1/2" Disk/Macintosh Version by Gaylord N. Smith, Bruce S. Koch 1 edition - first published in*

Productivity Software Computer software consists of programs that control computer hardware systems software and programs that help users solve problems application software. System software consists of operating systems e. Application software consists of a variety of programs that help individuals or groups perform tasks effectively. Application software is divided into different categories based on how it is used. These categories include word processing , spreadsheet software, data management, entertainment, education, and many others. One of the ways to categorize application software is to group word processing , spreadsheets, data management software, and presentation software into a category called productivity software. Word Processing Software Word processing software has replaced the typewriter to manipulate text. It can be used to produce documents, such as letters, reports, papers, and manuscripts. Word processors are the most widely used type of software. Word processors are used by students to write reports and papers, by business people to produce memorandums and reports, and by scientists to write research papers and grants. Word processing software allows users to edit, revise, store, format, and print documents. With a word processor, a user can easily delete, insert, and replace text, use the search-and-replace feature to make global changes to a document, and highlight areas of text block on which to perform actions such as "move" or "copy. Spelling and grammar checkers allow the document to be checked for misspellings and grammatical errors. A thesaurus helps the user pick alternate words, and the word count feature provides a quick way to know how many words a document contains. Many word processing programs contain mail-merge options to print customized form letters. Spreadsheet Software Spreadsheet software applications, sometimes called electronic spreadsheets, perform calculations based on numbers and formulas entered by users. The data can be presented in a traditional accounting format or transformed into graphics such as pie charts, bar graphs, and other visual representations of the information. Traditional, non-electronic spreadsheets consisted of grids of rows and columns printed on special green paper used by accountants to produce financial projections and reports. It allowed users to create tables and financial information by entering data into rows and columns arranged as a grid on a computer screen. Spreadsheet software like VisiCalc and its successors, which automated many functions of financial record keeping and data analysis, helped build the popularity of microcomputers as business tools. Electronic spreadsheets are also used by individuals to track household budgets and balance checkbooks, by business people to create budgets, and by educators to track student grades. To use an electronic spreadsheet, numbers are entered in cells the intersection of a row and a column. Cells are given a name consisting of the column letter such as A-Z and the row number such as 1â€” The user indicates how these numbers are to be manipulated using formulas or functions. For example, on a household budget spreadsheet, a formula can be created to add the household monthly expenses and store the results in cell B The formula, SUM B1: B19 , would sum the values stored in the range of cells starting in B1 and through cell B Another formula, BB20, could be created to subtract the expenses in cell B20 from the income in cell B21 on a household budget spreadsheet. Most spreadsheets also offer a variety of pre-defined formulas called functions that provide powerful mathematical calculations. Typically, these functions are divided into a variety of categories including financial functions e. In the most popular spreadsheet software packages included Lotus , Microsoft Excel, Quicken, and Quattro Pro. Database Software Database software provides a flexible way to join and summarize information from more than one file. Databases are designed, built, and populated with data for a specific purpose and for an intended group of users. Databases help people keep track of things. For example, a high school has a database with information about its studentsâ€™ names, identification numbers, addresses, years in school, grade point averages, and so on. These data are used by the school administration to know how many students are enrolled in the school and determine what kinds of

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classes are needed for these students. Databases are designed, built, maintained, and queried using a set of tools called a database management system DBMS. Desktop Publishing, Graphics, and Presentation Software Desktop publishing software expands the capabilities of word processing software by incorporating graphic design techniques. These techniques enhance the format and appearance of a document to produce professional-quality newspapers, newsletters, brochures, books, and magazines. Graphics software helps users to create, edit, and manipulate images. Graphics software can be classified into two major types: Many graphics packages specialize in manipulating photographs e. Other graphics packages allow the creation of 3-D graphics and wireframe models or images that resemble paintings or sketches. Presentation software provides the tools that users need to combine text, graphics, animations, and sound into a series of electronic slides. Many executives or public speakers rely on presentation software such as Microsoft PowerPoint or Lotus Freelance Graphics to create interesting and informative speeches. Educators use this software in the classroom. Researchers use electronic slides to present their research results at conferences. Business people use slides to make reports or give sales presentations. Both Power-Point and Freelance contain collections of images and sounds to enhance presentations and provide features to animate both text and graphics. Once a set of slides has been created, it can be viewed as a computer slide show or printed as overhead transparencies, paper copies, or 35mm slides. Integrated Productivity Software Integrated productivity software packages combine features of several applications programs into one software package that is sold as a unit. The benefit of using an integrated package is that the individual applications are designed to work well together, and a user can easily exchange files created in different parts of the integrated package. In addition, the user interface of the package has been integrated so that the user does not need to learn different ways of interfacing with each individual application. Software suites also integrate different applications into one software package. However, the amount of cohesiveness among the applications in a software suite may not be as complete as in an integrated package. Groupware Another type of application software program that is growing in popularity is groupware. This software provides a way for more than one person to collaborate on a project by maintaining a pool of data that can be shared by members of a workgroup. Typically, groupware software combines single-user applications such as calendars, word processors, and databases into a multi-user application along with an electronic meeting system EMS. Groupware can also contain workflow software that helps workers understand and redesign the steps that compose a particular process. In general, groupware is thought to improve productivity by keeping members of a group in contact with one another via calendars and documents. One groupware system, Lotus Notes, uses a very large database containing work records, memos, and notations, and combines it with a multi-function messaging system. Ironically, whether these productivity tools actually make their users more productive is questionable. While many researchers believe that these software applications actually decrease productivity, others are convinced that people are more productive when using productivity software. Lenox and Charles R. New Perspectives on Computer Concepts, 4th ed. Cite this article Pick a style below, and copy the text for your bibliography.

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3: Gaylord N. Smith | Open Library

*Electronic spreadsheet applications for cost accounting: includes Microsoft Excel tutorial and template diskette. 2 computer discs (3 1/2 in.) oclc/*

Simple spreadsheets can be displayed on screen; more complex spreadsheets extend into vast numbers of cells and can be displayed in part on one screen. The power of a spreadsheet is in its ability to store formulas and display their results. A recalculation feature in spreadsheets allows a user to enter new data into the spreadsheet which can affect other sections of the spreadsheet and see the results of new calculations. This "What If" feature of spreadsheets is a valuable tool for users. Three types of data may be entered into a spreadsheet or worksheet: Values may be used for basic arithmetic operations: Labels identify information in the worksheet and organize the information. Formulas perform calculations on data and display and store the resulting values. A cell, the intersection of a row and column, can contain a label, a value, or a formula for performing calculations. Cells are addressed by column number and row number, and a current cell address is displayed in an address box. The "home" cell is A1, located in column A, row 1. Only a small part of a complex spreadsheet is displayed on the screen at one time. Spreadsheets can contain millions of cells in each spreadsheet, and a spreadsheet file can include multiple spreadsheets. For example, Lotus and Microsoft Excel spreadsheets have columns and 65, rows, or 16,, cells. A spreadsheet file also may include multiple worksheets. More than one worksheet can be used to render three-dimensional charts of data. Spreadsheets are very powerful, extensive electronic worksheets. A spreadsheet handles such simple functions as adding, subtracting, multiplying and dividing. Arithmetic operators are used to represent the functions: A symbol at the beginning of a formula identifies the entry as a formula instead of a label. A simple spreadsheet can be enhanced with spreadsheet tools. A spreadsheet is initially set up by default with a given column width, row height, and format for entries. If labels are longer than the column width allowed, the spreadsheet does not "lose" the extra characters; instead they are not displayed if the cell to their right has an entry. The user may change the column width and row height to enhance the appearance of the entries. The user then has tools within the spreadsheet for formatting entries. Numeric data may be formatted as dollars and cents, with commas separating hundreds and thousands, in various formats for different countries, with a given number of decimal points, in exponential form, or in other formats. When a formula is entered, the cell displays the result of computation and retains the formula. To display the formula, not its results, in a cell, a user can choose a format for "text. If the cell is formatted to the "text" format, the formula will show instead of the computed answer. Spreadsheet packages usually have a "shortcut" keyboard method of displaying the formula version of entries. A set of data can be described to the spreadsheet as a range by specifying the beginning cell, in the upper left corner of the data, and the ending cell, in the lower right corner of the data. For example, to identify a rectangle that begins with cell A1 and extends down to cell D3, one address for the range would be A1: Spreadsheets identify the range with a symbol that means "through. D3, the format used by many spreadsheets, the range is interpreted as "cell A1 through cell D3. Rows 1 through 7 show a spreadsheet. In row 1, "Sales by Region for First Quarter," the heading for the entire worksheet, is an example of a label. The column headings and items in column A are labels; columns B through D are values, which are summed in column E with formulas. The formulas in column E sum the numbers for January, February, and March for each item. Across the bottom of the spreadsheet, the total line is also a result of using formulas to sum the columns. The title, "Sales by Region for First Quarter," and the column headings January, February, March, Totals show how font changes can enhance the readability and attractiveness of a spreadsheet. Cells can be formatted to bold, underline, or italicize entries; background color or shading can be added; and font faces and sizes can be changed. In the sample worksheet, formatting has been used to aid readability. Values can be formatted. In the sample spreadsheet, the values in rows 4 through 6 have been formatted to no decimal places with commas. Rows 3 and 7 have been formatted with a dollar sign for readability. A user can select the

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desired formatting from a menu. Spreadsheet data can be selected for charts, or visual representations of those data. Cells are selected by highlighting them. Spreadsheet packages may chart one set of data in the form of a pie chart, or two or more sets of data in bar charts with vertical bars, horizontal bars, or stacked bars, line charts, area charts, or mixed charts, which combine bars and lines to represent data. Data can be displayed in two-dimensional or three-dimensional form. Charts become part of the spreadsheet and may be stored on the same page as the spreadsheet or as a separate page or worksheet. Figure 2 shows a sample chart for the sales spreadsheet described above. The chart depicts the figures from B3 through D6 in the spreadsheet, categorized by cells A3 through A6 labels. A column or bar chart is only one of several choices of charts that a user can select. A user can enter a macro into a worksheet file or into a macro library, a worksheet file that stores macros. To create a macro, the user enters the steps needed to carry out a task, gives the macro a name, and saves it in a file. To use the macro, the user selects it by name from a menu and runs the macro in the spreadsheet. The steps are carried out automatically. For complex tasks that are used often, a macro makes it easier for a user to avoid mistakes in the task, since the steps are stored as a file and recalled as needed. Information can be copied from a spreadsheet into other software packages, such as a word-processing package. Spreadsheets can be linked to files in other software in the package so that changes made in the spreadsheet are automatically reflected in the linked document. A table from a spreadsheet can be linked to a word-processing document so that any changes in cell entries in the spreadsheet change the contents of the table in the word-processing document. Embedded objects, such as a chart from a spreadsheet, can be embedded into a word-processing document. Unlike linking, changes in the embedded chart in the document are not reflected in the source file spreadsheet file. These features make the spreadsheet a very powerful tool for analysis and reporting of data in various formats. Spreadsheets have also become a useful tool for personal record keeping. The data organization and graphics capabilities of spreadsheets make them a useful tool for all types of calculations, displays, and analysis. Retrieved December 10, , from [http:](http://) Introductory Concepts and Techniques 2nd ed. Retrieved December 7, , from [http:](http://) Brown Pick a style below, and copy the text for your bibliography.

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## 4: List of spreadsheet software - Wikipedia

*since the emergence of pcs, lotus 1 2 3, and microsoft excel in the 's, spreadsheet models have been the dominant vehicles for finance professionals in the business world to implement their financial knowledge.*

Consider using PDF conversion software. A Brief History of Spreadsheets by D. COM Spreadsheets have been used by accountants for hundreds of years. Computerized or electronic spreadsheets are of much more recent origin. Information Systems oral history and some published newspaper and magazine stories celebrate Dan Bricklin as the "father" of the electronic spreadsheet. Bricklin and Bob Frankston then co-invented or co-created the software program VisiCalc. We can look back and recognize that VisiCalc was the first "killer" application for personal computers. In the realm of accounting jargon a "spread sheet" or spreadsheet was and is a large sheet of paper with columns and rows that organizes data about transactions for a business person to examine. It spreads or shows all of the costs, income, taxes, and other related data on a single sheet of paper for a manager to examine when making a decision. An electronic spreadsheet organizes information into software defined columns and rows. The data can then be "added up" by a formula to give a total or sum. The spreadsheet program summarizes information from many paper sources in one place and presents the information in a format to help a decision maker see the financial "big picture" for the company. Beginnings and the "Tale of VisiCalc" In , Professor Richard Mattessich pioneered the development of computerized spreadsheets for use in business accounting. Its First Computerization ". They received a US patent no. Therefore, a history of the modern era of microcomputer-based electronic spreadsheets should begin with the "Tale of VisiCalc". The tale of VisiCalc is part myth and part fact for most of us. The story is that Dan Bricklin was preparing a spread sheet analysis for a Harvard Business School "case study" report and had two alternatives: Bricklin thought there must be a better way. He wanted a program where people could visualize the spreadsheet as they created it. His metaphor was "an electronic blackboard and electronic chalk in a classroom. The program helped users input and manipulate a matrix of five columns and 20 rows. The first version was not very "powerful" so Bricklin recruited an MIT acquaintance Bob Frankston to improve and expand the program. Bricklin calls Frankston the "co-creator" of the electronic spreadsheet. Frankston created the production code with faster speed, better arithmetic, and scrolling. He also expanded the program and "packed the code into a mere 20k of machine memory, making it both powerful and practical enough to be run on a microcomputer". Fylstra was "marketing-oriented" and suggested that the product would be viable if it could run on an Apple micro-computer. VisiCalc became an almost instant success and provided many business people with an incentive to purchase a personal computer or an H-P 85 or 87 calculator from Hewlett-Packard cf. Bricklin includes early ads and reviews and pictures of the VisiCalc packaging and screenshots. What came after VisiCalc? The market for electronic spreadsheet software was growing rapidly in the early s and VisiCalc stakeholders were slow to respond to the introduction of the IBM PC that used an Intel computer chip. During this period, Mitch Kapor developed Lotus and his spreadsheet program quickly became the new industry spreadsheet standard. What is Lotus ? Lotus made it easier to use spreadsheets and it added integrated charting, plotting and database capabilities. Lotus established spreadsheet software as a major data presentation package as well as a complex calculation tool. Lotus was also the first spreadsheet vendor to introduce naming cells, cell ranges and spreadsheet macros. Part of that money along with funds from venture capitalist Ben Rosen were used to start Lotus Development Corporation in The number of employees at Lotus grew to over a thousand by This rapid growth led to a shakeout in the spreadsheet segment of the personal computer software industry. A Lotus spokesperson indicated at that time that " and Symphony are much better products so Visicalc is no longer necessary. The next milestone was the Microsoft Excel spreadsheet. Excel was originally written for the K Apple Macintosh in Excel was one of the first spreadsheets to use a graphical interface with pull down menus and a point and click capability using a mouse pointing device. The Excel spreadsheet with a graphical user interface was easier for most people to use than the command line interface

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of PC-DOS spreadsheet products. There is some controversy about whether a graphical version of Microsoft Excel was released in a DOS version. Microsoft documents show the launch of Excel 2. When Microsoft launched the Windows operating system in , Excel was one of the first application products released for it. When Windows finally gained wide acceptance with Version 3. For nearly 3 years, Excel remained the only Windows spreadsheet program and it has only received competition from other spreadsheet products since the summer of . By the late s many companies had introduced spreadsheet products. Spreadsheet products and the spreadsheet software industry were maturing. Microsoft and Bill Gates had joined the fray with the innovative Excel spreadsheet. Lotus had acquired Software Arts and the rights to VisiCalc. The spreadsheet entrepreneurs were moving on Legal Battles In January of , Lotus Development filed suit against Paperback Software and separately against Mosaic Software claiming they had infringed on the Lotus spreadsheet software. In a related matter, Software Arts, the developer of the original VisiCalc spreadsheet software filed a separate action against Lotus claiming that Lotus was an infringement of VisiCalc. Briefly, Lotus won the legal battles, but lost the "market share war" to Microsoft. Their visual displays were not however identical to or to each other. The Court ruled that "[t]his particular expression of a menu structure is not essential to the electronic spreadsheet idea, nor does it merge with the somewhat less abstract idea of a menu structure for an electronic spreadsheet What about recent history? Dan has VisiCalc at his site. Bob Frankston is "pursuing a number of projects According to a Red Herring Profile , Mitch Kapur "gradually traded in his position as an entrepreneur searching for the next big technology idea for the long-term advisory role of angel investor". A solver add-in can be used for both equation-solving often called goalseeking and for constrained optimization using linear programming, nonlinear programming, and integer programming methods. Spreadsheet Software from VisiCalc to Key Dates in the history of Microsoft Excel Excel 1. I found it more useful than the Apple version because it had graph plotting and statistical analysis in the same package. At the time, the HP plotter had just appeared so we could produce colour charts on paper or transparencies for presentation. The MIS folks were most disturbed because they could see the writing on the wall. Our summer students would spend hours watching the plotter perform its stuff. Those were fun days. Chris noted the "straight facts are quite accurate", but he took issue with a few points that he felt represented "editorial opinion" on my part: I leave it to the readers to evaluate the earlier editorial opinions. DJP How to cite Please cite as: Photo added September 24,

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## 5: Productivity Software | [www.enganchecubano.com](http://www.enganchecubano.com)

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One of the components within software productivity suites is the spreadsheet. Spreadsheets are popular among accountants and among those who like to collect and track data, yet there are some limitations, which may not make them the best choice for every office application. Organizing Data Spreadsheets are frequently the go to tool for collecting and organizing data, which is among the simplest of its uses. Information can easily be placed in neat columns and rows and then sorted by information type. Although a large collection of data may be overwhelming to view in its raw state, tools within the program allow the user to create presentations where the data is analyzed and plugged into pie charts or tables for easy viewing and interpretation. However, the downside is that only the information that the user chooses for analysis is included in these presentations, and therefore, other pertinent information that may influence decision making might be excluded, unintentionally. To make reporting of data more user friendly and comprehensive, companies are choosing to use reporting tools such as Tableau and Qlik, instead of relying solely on the spreadsheet. Calculations and Errors No one likes to spend all their time at work doing repetitive calculations. The great appeal of spreadsheets is that the program does all the math for the user. Once a formula is written and the program has a set command, complex calculations can easily be computed for the related data that has been input. This allows users to ask "what if" types of questions and to easily get the answers they need without the need to rework the calculations. For example, if the spreadsheet is set up to calculate your gross profit, when any variable such as cost per unit, shipping costs, or sales discount are changed, the software automatically recalculates the new gross profit based on the new information. The difficult part for many users, however, is that the calculations must be entered into the spreadsheet as formulas. This requires learning the correct syntax for each type of calculation you wish to make. Although many classes are available to learn the skills necessary to use these formulas, many users still find them difficult. If the syntax is incorrect, the program will not return the correct information when the calculations are run. Additionally, if users input the wrong data, even in only one cell of the spreadsheet, all related calculations and cells will be affected and have incorrect data. If using Microsoft Excel, the spreadsheets can be shared, but only one user can change data at a time. If local copies are made and updated, other users will not have access to the new data. Google Sheets offers the solution of file sharing and allowing multiple users to access and update a single form. However, in both cases, there is no file history. Therefore, no matter who makes changes at any time, when any changes are made, the previous information history is lost. Security Another spreadsheet disadvantage is the lack of security for your files. Typically, spreadsheets are not that secure and therefore are at greater risk for data corruption or mismanagement of information. Files that contain sensitive financial information may not be safe from hackers, even if password protected. Other types of data collection software therefore may be a more suitable option. Access, Oracle or some other form of relational database has built in safeguards that protect data integrity and prevent the reorganization of information. For example, in a spreadsheet, a user might sort a column of information and may inadvertently cause related information, such as first and last name, to become out of sync. In contrast, a database will keep all parts of a record unified, thereby ensuring better data integrity.

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## 6: The Advantages & Disadvantages of Spreadsheets | [www.enganchecubano.com](http://www.enganchecubano.com)

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Opportunities and Challenges, that I authored. Wednesday, January 9, History of Spreadsheet Software Prior to electronic spreadsheets calculations were done with pencil and paper, perhaps also using a slide rule, or if one had access to it, an adding machine. Prior to the use of computers and spreadsheet technology one can only imagine the manual math calculations that allowed Neil Armstrong to walk on the moon and return to earth in , much less to run large city hospitals efficiently. There were no electronic communication or barcode systems to keep up with inventory supply and demand needs in healthcare settings. Electronic spreadsheets originated with Richard Mattessich in In , Dan Bricklin, a graduate student at Harvard Business School, developed a spreadsheet prototype for VisiCalc for a case study report. After designing the prototype, Bricklin engaged the assistance of Bob Frankston, a graduate from the Massachusetts Institute of Technology MIT with computer science graduate degrees, to create the production code Bellis, ; Fleming, ; Frankston, Later Bricklin and Frankston created a business to market their VisiCalc product. In , the Lotus Development Corporation released Lotus , a precursor to the many spreadsheet software products we use today. Kapor had left VisiCalc and Sachs had worked with a company that created spreadsheet software for Data General. Soon afterwards, other competitors began to develop other spreadsheet software applications. IBM bought Lotus in Lotus is still available as a commercial product from IBM. The first iteration of Microsoft Excel was called Multiplan and released in Multiplan was redesigned to accommodate additional operating systems and renamed Excel when first released for the Mac in Haresoftware, ; Peter, ; Power, Excel was the first software that allowed the user to customize the spreadsheet using fonts, character attributes, and cell appearance. It offered auto-calculating and provided the graphical capabilities that are still popular today. It was not until that iWork Numbers, the Apple spreadsheet app, was released. Numbers was a part of the iWork office suite Apple, Numbers also introduced the contextual format bar, which hides the column letters and row numbers unless the spreadsheet is edited. Apple released iWork Numbers as a mobile app with the introduction of the iPad in Today, there are numerous spreadsheet applications available for a variety of platforms. Standalone programs are available for desktop, laptop, and mobile computers, such as the iPhone, iPad, and Android phone. Online cloud spreadsheet software is available for any of the multiple platforms that allow for Internet access.

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## 7: The Importance of an Electronic Spreadsheet | Your Business

*Lotus made it easier to use spreadsheets and it added integrated charting, plotting and database capabilities. Lotus established spreadsheet software as a major data presentation package as well as a complex calculation tool.*

Graziadio Business Report , , Vol. Hesse has taught management science using spreadsheets since in both engineering and business schools, and at both the graduate and undergraduate levels. Spreadsheet analysis is a very visual technique to help improve business operations and profitability. On the 25th anniversary of the development of electronic spreadsheets, the good news is that spreadsheets have had a positive impact on the way businesses operate behind the scenesâ€”from finance and accounting to operations and marketing and human resourcesâ€”and they save time. The bad news is that training is woefully inadequate and haphazard. The ugly news is that spreadsheets are full of errors, with a majority of firms using them in some way for financial reporting that falls under the Sarbanes Oxley act. The Good History The real breakthrough for business use of personal computers PCs was the development of VisiCalc, the first electronic spreadsheet, and its successors: Multiplan, Lotus , Excel, and Quattro Pro. Such programming has meant that results can be shown on the PC screen in a spatial, visual way that the average person can easily view and understand. There is no need for a compilerâ€”results are immediate. Programming is no longer linear, relegated to the realm of an elitist functioning behind the scenes, or to an arcane way of thinking computing "behind closed doors. In addition, the spreadsheet allows for a collaborative learning approach, since templates are shared within and across companies versus taking the individualistic approach to computer programming. Users can now design their own layouts using a few simple rules, and thus employees become rule-makers themselves. He estimates conservatively that there are a million analysts in Fortune companies who could benefit from such training. Professor Winston estimates that analysts do 90 percent of their analysis with Excel. Because her company did not want to lose her Excel and Access skills, it matched and increased that offer. In his new job he did not have specialized software, but knew that Excel should be able to do a curve fit for the Weibull distribution. He emailed for help, and I was able to retrofit one of my curve-fitting templates to give the correct results. A few months later the student was finally able to get the expensive software which confirmed the Excel results. The Bad In business, spreadsheets are more "caught" than "taught. Employees often share among themselves little tricks and traps along with their spreadsheet templates, but formal training is not offered in most businesses. As college graduates entered the workforce, it was thought that they would infuse each organization with these new skills and obviate the need for training in using spreadsheets. As a result, training businesses faltered, and it was left to Human Resource HR departments to provide any necessary training internally. However, such departments did not and do not provide instruction in the functional skills of finance, accounting, marketing or management science, nor do such programs offer very effective training in fully utilizing spreadsheets. Consequently, HR was ignoring the hidden costs of not training for these skills. With automated drawing and drafting, there are benchmarks on how long it takes to develop a drawing and how many revisions are necessary to be able to show the worth of programs like AutoCad. However, spreadsheets do not have such benchmarks or measures for how much time is saved. Research has shown that logical reasoning skills significantly increase after just six weeks of training on spreadsheets. My experience in 10 years at Pepperdine teaching almost 1, fully-employed MBA students has not shown any noticeable improvement overall in computer or spreadsheet skills among entering students. While some students are quite adept at learning the skills, others are totally clueless. Employers are usually amazed at what these students learn to do with spreadsheets, and some are dubbed by their employers as being "queen" or "king" of spreadsheets. However, the danger then becomes that the employee spends more time helping other employees than in getting their own work done. Only a small percentage of learners can pick up a manual, watch a video, or attend a training session and become proficient in using spreadsheets. The majority of learners often need someone to coach them through the different functions or aspects they need for a particular task. Over time they then accumulate

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enough familiarity to competently handle spreadsheets. Even I learn something new every semester from my students, which I in turn incorporate into the quantitative courses. Perhaps one reason that training companies and their materials failed to help people learn to use spreadsheets is because of a computer mainframe, linear mentality. They thought that by teaching several commands or functions, a trainee should then know how to program. At Pepperdine, dedicated staff members of academic computing tried to develop training materials and seminars for our graduate students in business, education, and psychology. However, since most of the IT staff do not know these fields, they were ineffective in applying their computer programming knowledge to practical applications. Students often comment they learn much more about using spreadsheets in a quantitative, finance, or accounting class because it applies to their work. What we have been left with is training by business and engineering schools, mostly for undergraduates. Even in MBA programs, the assumption is that students know spreadsheets or will pick up the knowledge from their classmates or at an introductory session. Textbooks that use spreadsheets generally do not spend much time teaching the basics and count on the fact that using them in an application will teach more than the traditional approach to teaching programming. The Ugly Ray Panko, at the University of Hawaii, has done extensive research in the area of spreadsheet errors and has made some startling discoveries. Many organizations have no procedures for developing and then updating spreadsheets. Further compounding this problem are the built-in errors in spreadsheets such as Excel, which concern many statisticians. Since he has been writing a quarterly column in Decision Line, "In the Classroom. Hesse has written articles in Interfaces, Operations Research, Decision Sciences, and several textbooks. Sugden, "Spreadsheets in Education: The First 25 Years," Spreadsheets in Education,

### 8: Jeanne Sewell's Informatics & Nursing Blog: History of Spreadsheet Software

*The first personal computer electronic spreadsheets, including Visicalc and Lotus , revolutionized business because they were fast, flexible and low in cost. Today's software, such as Microsoft's Excel, continue the productivity benefits pioneered in the earlier programs.*

### 9: Spreadsheet - Wikipedia

*Lotus was the leading spreadsheet when DOS was the dominant operating system. Excel now has the largest market share on the Windows and Macintosh platforms. [11] [12] [13] A spreadsheet program is a standard feature of an office productivity suite ; since the advent of web apps, office suites now also exist in web app form.*

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*Fundamentals of software engineering rajib mall third edition phi What can you do to help yourself? Chinatown survey area land use report. Emerging Stock Markets Factbook, 1991 New Therapeutic Strategies in Low-grade Gliomas Local government competition Till we have faces cs lewis MINOLTA DYNAX/MAXXUM 7XI (Hove Users Guide) Her name was Lola Ms excel training manual Google s ipad Best of Old Time Radio Uranometria 2000.0 Volume 2, The Southern Hemisphere to +6 The imperfectionists The new man at Rossmere A mausoleum, a legend, a school, and Angelina The radical Luhmann Bound states and analytic properties in angular momentum. Basics of international business Campus information Aim/Far 1995: Airmans Information Manual/Federal Aviation Regulations (AIM/FAR: Airmans Information Manua The European view Commercial services for providing authority control : outsourcing the process Sherry L. Vellucci Water-quality assessment of the upper Illinois River Basin in Illinois, Indiana, and Wisconsin Sounds of numbers. Pharmacological and Biophysical Agents and Behaviour How to Make Your Realtor Get You the Best Deal: Michigan The Dove (Nellss Aviary) The field of vision Student-centred approaches Part three : Darwins influence on science American popular song lyricists oral histories, 1920s-1960s Fells Advance Hypnotism Far aim 2015 Nursing as a profession When your child is difficult Bt-M.whelan Yr Wn89cal Bomber squadrons at war An Improbable Life Chromosome atlas of cultivated plants*