

# Designing and Executing the Program Logic using Flowgramming

<sup>1</sup>M. Krishnamoorthy, <sup>2</sup>P.S. Udaya Banu

<sup>1</sup>Assistant Professor, Department of MCA, Panimalar Engineering College

<sup>2</sup>PG Scholar, Department of M.CA, Panimalar Engineering College

**Abstract**---Generally software supports the execution of coding and complex instruction steps. There is an unbreakable relation between the program and coding back from the olden days and we are now, dependent mostly on complex coding for the programs. By the introduction of Flowgramming, we have got an ultimate remedy for this problem. I have tried to provide an alternate approach to this. This paper allows the programmer to design a flowchart and execute it directly without the creation of any intermediate codes. No limitations, if the logic of the program is known, the flowchart can be designed and executed easily. This paper contains standard flowchart symbols for designing the program and directly visualizes the execution of the program. It has the facility of modularizing the program, which allows us to develop complex programs by dividing the program into modules, which can then be integrated together. This task has been achieved by predefining the significance of such flow chart symbols in visual basics without any backend.

**Keywords**---Fpp – Flow process programming, Flowgramming – Flowchart+Programming.

## I. INTRODUCTION

The first structured method for documenting process flow, the "flow process chart", was introduced by Frank Gilbreth to members of the American Society of Mechanical Engineers (ASME) in 1921 in the presentation "Process Charts—First Steps in Finding the One Best Way". Gilbreth's tools quickly found their way into industrial engineering curricula. A flowchart is a type of diagram that represents an algorithm or process, showing the steps as boxes of various kinds, and their order by connecting these with arrows.

This diagrammatic representation can give a step-by-step solution to a given problem. Process operations are represented in these boxes, and arrows connecting them represent flow of control. Data flows are not typically represented in a flowchart, in contrast with data flow diagrams; rather, they are implied by the sequencing of operations. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields. Flowcharts are used in designing and documenting complex processes. Like other types of diagram, they help visualize what is going on and thereby help the viewer to understand a process, and perhaps also find flaws, bottlenecks, and other less-obvious features within it. There are many different types of flowcharts, and each type has its own repertoire of boxes and notational

conventions. The two most common types of boxes in a flowchart are:

- A processing step, usually called activity, and denoted as a rectangular box
- A decision, usually denoted in diamond shape.

## II. LITERATURE SURVEY

### Existing System

Instead of executing the programs written in any one of the programming languages, we can execute the pictorial language. Whenever someone thinks of the word execution, the first think that comes to mind is always the word coding. So there is an unbreakable relation between coding and execution. An alternative that tries to break this is pictorial language. Normally flowchart is a pictorial representation of a coding or program but we can not execute the flowchart directly. We can execute the flowchart using some intermediate codes. That is execution of the flowchart generates coding and based on the coding the output is generated. Hence in this approach also we are dependent on coding.

### Drawbacks:

- The coding is not executed, but we are dependent on coding.
- Execution takes more time to produce output.
- The output is based on intermediate codes.

### Proposed System

This system is designed in a user friendly manner by providing user friendly screens and user friendly options. It has certain control and data flow levels in its designing process. Flowgramming allows the user to design a flowchart and execute it directly without the creation of any intermediate codes. There are no limitations. If the logic of the program is known the flowchart is designed and executed easily. Flowgramming contains standard flowchart symbols for designing the program and allows direct visualization of program execution. It provides support of the modularity concept in the software engineering.

### Advantages:

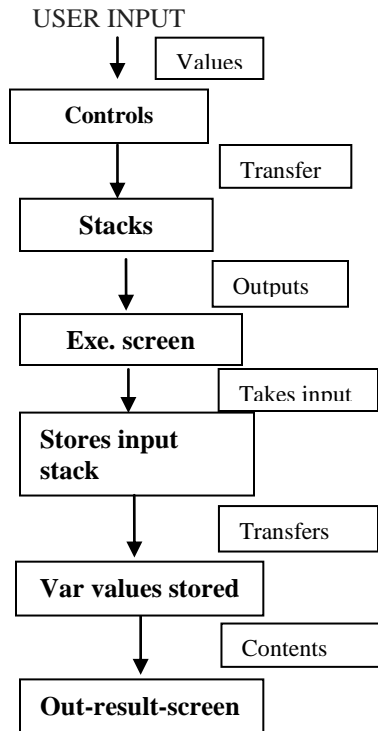
- Implements the concept of programming sequence by flow control method.
- It does not follow any sequence control; everything is stated in terms of flow control.

- It provides temporary storage for programs that is executed by maintaining temporary stack.
- It provides delay options for executing the program in whichever speed we need..

### Related Work

Flowgramming is an animated flow chart tool that use vector format file to represent the flow chart image. It utilize a new concept of data representation based on a Library classification-scheme method. A library classification scheme has been accepted as a standard classification framework for information sources in traditional library, and text classification becomes a popular and attractive tool in organizing digital information . Flowgramming was adapted from programme debugging process, which execute the programme line-by-line. Active symbols are represented by a blue square which will pass each symbol in flow chart diagram from the beginning until the end of simulation process.

### III. ARCHITECTURE DIAGRAM



“Flow Programming” allows running basic algorithm in a visual way by placing program blocks on the screen and connecting them with arrows. The process flows in the manner the chart is designed as soon as it gets input from the users. The chart is stored as .fpp files in the memory. This file is loaded into the temporary stack that is designed by making use of the visual basic language. Then the control is transferred from one statement to another and at last the program is executed after the final operands and operators are stored in the variable list maintained in the program for future reference. The stack is maintained to

store the program constructs such as, the instruction to be executed. The user can just place the objects by just dragging and dropping them in workspace.

### IV. IMPLEMENTATION MODULES

- Authentication module
- Menu bar and tool bar designing
- Flow process Implementation

#### Authentication Module

Authentication is a process of verifying that the user is authenticated or not. Authentication module contains two process – Register and Login.

Registration is the first step in the authentication module. The user has to register in order to access the software. During Registration process the user has to enter the mail id, username and password. And the mail- id should be valid , if not it prompts a error message. And while registering all the three details should be given ,if not the user can not continue the registration process. Once all the details have been entered , the user can click the register button. After registration, a message prompts that the registration has been completed successfully

This paper makes use of username and password for authentication. The user enters the username and password that is checked to find if the user is authentic or not. If the user is an authentic it enters into an application else error message is displayed. If more than two attempts are made to enter the dialog window, the application gets exited automatically.

#### Menubar And Tool Bar Designing

This module deals with menubar and toolbar designing. The menu bar contains file, shape, delete and help options. The file menu has the facility to open and load the modules into the application and also a save and save as option to save the modules that is done by the user and a exit option to exit the application. The change menu is used to change the existing or draw a new shape in the application, change border color and size option. And it also contain a delete option to delete a line or the entire block.

The toolbar contains various predefined flowchart symbols to design the chart. The input and output box contains a dialog box to specify the required input and output values to perform the operations. The toolbar contains connect button to connect the chart and there is a option automatic to connect the chart automatically. The Edit button is used to edit the existing design. Here delay slider is used to provide the delay option during the runtime of the flowchart programming. It allows the user to view how the control transfers from one step to another step. So that the flow of control can be viewed.

### Flow Process Implementation

The user has to design the flowchart using the predefined symbols in the toolbar. Flowgramming allows the user in a visual way by placing the chart blocks on the screen and connect them with arrows. The initial Flowgramming screen contains the default start and stop symbols. The user has to specify the number of inputs and the required action that is to be performed and then save the flowchart. The process flows in a manner such that the chart is designed as soon as it gets input from the users. The chart is stored as .fpp files in the memory. .fpp is an extension that is used in this application. This file is loaded into the temporary stack that is designed by making use of the visual basic language.

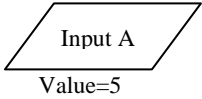
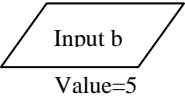
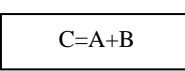
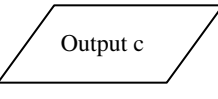
The control is transferred from one statement to another and at last the program is executed after the final operands and operators are stored in the variable list maintained in the program for future reference. It also uses separate stack for the program. It also has delay feature which allows us to trace the execution flow of the program. It allows the user to view how the control transfers from one step to another step. So that the flow of control can be viewed. It allows direct visualization of program execution. It provides support of the modularity concept in the software engineering.

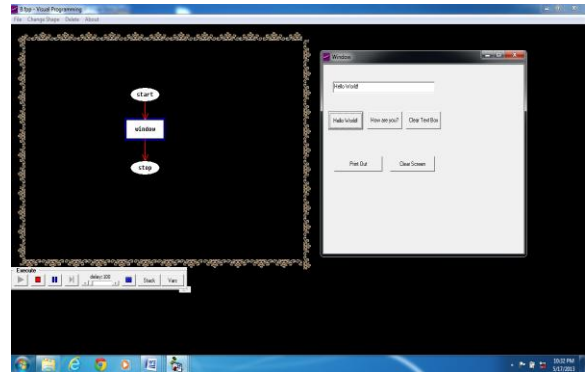
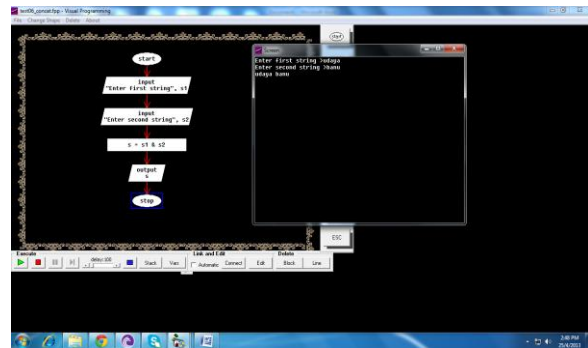
It has the facility of modularizing the program, which allows us to develop complex programs by dividing the program into modules, which can then be integrated together. The process flows in a manner such that the chart is designed as soon as it gets input from the users.

### V. HOW THE SOFTWARE WORKS

Flowgramming has made the execution of flowchart possible. It allows the user to draw flowchart for the program and execute it without the creation of any coding. It is possible to trace a variable in the program. It uses separate stack for the program execution. It also has delay feature which allows us to trace the execution flow of the program. It has the facility of modularizing the program, which allows us to develop complex programs by dividing the program into modules, which can then be integrated together. It allows direct visualization of program execution. The process flows in a manner such that the chart is designed as soon as it gets input from the users

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S.NO	SYMBOL	OPERATION	OUTPUT
1		Assign value 5 to variable A	A=5
2		Assign value 5 to variable B	B=5
3		Add A and B and store the value in C	C=5+5 C=10
4		Output the value of C	C=10



### VI. CONCLUSION & FUTURE ENHANCEMENT

This project allows the programmer to design a flowchart and execute it directly without the creation of any intermediate codes. The hardware required for the development of the project is common and minimum configuration. The cost required for the hardware is also less. If the logic of the program is known, the flowchart can be designed and executed easily. It is easy for the beginners to do programs using this project.

Flowgramming allows the user to design a flowchart and execute it directly without the creation of any intermediate codes. There are no limitations. If the logic of the program is known the flowchart is designed and executed easily. Flowgramming contains standard flowchart symbols for designing the program and allows direct visualization of program execution. It provides support of the modularity concept in the software engineering.

The flowchart-based programming environment, designed specifically to help students visualize their algorithms and avoid syntactic baggage. The charts are created visually and executed visually by tracing the execution through the flowchart. Required syntax is kept to a minimum. Now the flowgramming supports dos oriented output only. In future I will try to implement window oriented also. In future Flowgramming will be freely distributed as a service to the Computer Science Education Community (CSEC). The visual nature of the flowcharts makes it easier for user to follow the control flow in their programs, and to solve problems more easily.

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