

Testing and update of Mind Mapping software that helps students to plan eight different types of essays

MD. Ishfaqul Hoque Chowdhury

Student ID: 03101036

Department of Computer Science and Engineering

September 2007



BRAC University, Dhaka, Bangladesh

Testing and update of Mind Mapping software that helps students to plan eight different types of essays

Thesis report prepared by

MD. Ishfaqul Hoque Chowdhury ID: 03101036

Under the supervision of

Yousuf Mahbubul Islam, Ph.D.

Associate Professor

Computer Science and Engineering Department, BRAC University



Department of Computer Science and Engineering

**BRAC University
Summer 2007**

Foreword

The thesis report is submitted in partial fulfillment of the academic requirements for the degree of Bachelor of Science in Computer Science and Engineering to the Computer Science and Engineering Department at BRAC University, 66 Mohakhali, Dhaka-1212, Bangladesh.

MD. Ishfaqul Hoque Chowdhuy ID: 03101036

As the supervisor of the candidates I have approved this dissertation for submission.

.....

Yousuf Mahbubul Islam, Ph.D.
Associate Professor
Computer Science and Engineering Department
BRAC University
66 Mohakhali
Dhaka-1212
Bangladesh.

Declaration

The whole dissertation, unless specifically indicated to the contrary in the text, is my original work, and has not been submitted in part, or in whole for the degree or diploma to any other university.

.....

MD. Ishfaquul Hoque Chowdhury

ID: 03101036

Approval Sheet

The thesis report titled “**Testing and update of Mind Mapping software that helps students to plan eight different types of essays**” has been submitted to the following respected members of the Board of Examiners of the Faculty of Engineering in partial fulfillment of the academic requirements for the degree of Bachelor of Science in Computer Science and Engineering on September 3, 2007 by the following student and has been accepted as satisfactory.

MD. Ishfaqul Hoque Chowdhury

ID: 03101036

.....

Supervisor
Yousuf Mahbubul Islam, Ph.D.
Professor
Computer Science and
Engineering department
BRAC University
66 Mohakhali,
Dhaka-1212
Bangladesh

Acknowledgements

At first my heartiest gratitude goes to Almighty Allah, without his divine blessing it would not be possible for me to complete this project successfully.

This work was started after the two BRAC University students Farjana Jahan and Farhana Rahman developed a mind map software named Mind Map Version 1.0.0 . So I must pay my gratitude to them to give me the opportunity to work with their authorized software.

I must pay gratitude to my supervisor, Yousuf Mahbubul Islam, Ph.D, Associate Professor, Department of Computer Science and Engineering, BRAC University, for his enriched and powerful structured discussion that has been a great help in each step of doing and writing the dissertation.

I want to offer thanks all of the students of English Language Program (ELPRO) of BRAC University whom help me on my thesis work to do the testing of the software.

Finally I like to offer thanks to all of my friends and well-wishers for helping my by rigorous reviews of this work and inspiring suggestion.

Abstract

To improve students learning skills, a mind map software is developed by BRAC university students. My work involves testing this software on some BRAC university students of English Language Program (ELPRO) to develop their learning skills and also to give feedback students. Analyze the students' feedback, I develop the software Mind Map Version 2.0.0 which can help student to plan eight different types of essays effectively.

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1. Introduction:

In our country generally when a student is given to write an essay he / she faces problem to plan an essay. As rote learner most of the students try to memorize the whole essay to write the particular essay in future which is constrain to develop creative writing skill. Those who also try to write essay without memorizing also face problem to plan the essay as they do not know how to plan for an essay.

To improve students learning skills, Farzana Jahan and Farhana Rahman, two students of BRAC University is done their research. In their research they find

- Student find difficulties to do mind map
- As rote learner student have no habit of asking question
- Mind Map essentially need to plot the answer that arise

So they developed software named Mind Map Version 1.0.0 to improve students learning skills. In that software there are sets of knowledge base questions are used to draw particular types of mind map which include essay planning, thesis planning, assignment solving, time management, planning career, exam preparation, career planning etc.

In my thesis work involves testing Mind Map Version 1.0.0 and going for further improvement for this software. So for this thesis, particularly Essay Planning section is taken for testing and research focus on this issue.

2. Mind Map

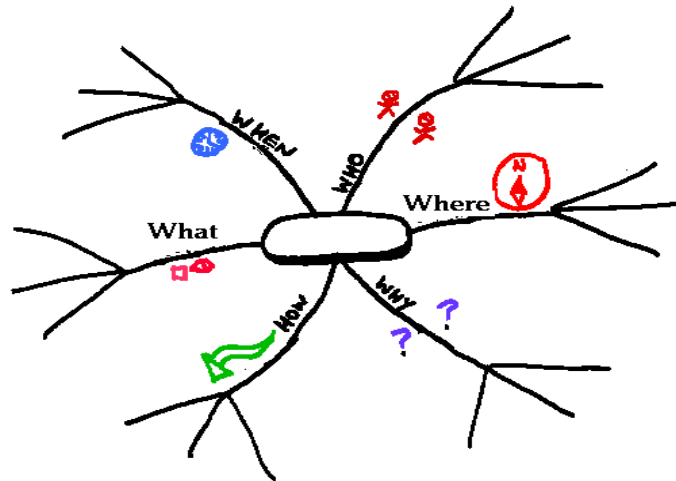


Figure 1: Sample Mind Map concept

2.1 Definition

1. A Mind Map is a [diagram](#) used to represent [words](#), [ideas](#), tasks or other items linked to and arranged radially around a central key word or idea. It is used to [generate](#), [visualize](#), [structure](#) and [classify](#) ideas, and as an aid in [study](#), [organization](#), [problem solving](#), and [decision making](#).

2. Mind Map is an image-centered diagram that represents [semantic](#) or other connections between portions of information. By presenting these connections in a radial, non-linear graphical manner, it encourages a [brainstorming](#) approach to any given organizational task, eliminating the hurdle of initially establishing an intrinsically appropriate or relevant conceptual framework to work within.

3. A Mind Map is similar to a [semantic network](#) or [cognitive map](#) but there are no formal restrictions on the kinds of links used. The elements are arranged intuitively according to the importance of the concepts and they are organized into groupings, branches, or areas. The uniform graphic formulation of the semantic structure of information on the method of gathering [knowledge](#), may aid recall of existing [memories](#).

4. A Mind Map is similar to a road map to help you on your journey. It will provide an overview or overall picture of a particular subject and help you plan your route or choices. The Mind Map stores large amounts of information efficiently, but the exciting part for me was discovering that the final Mind Map is not only easy to read and look at, but also uses the potential of the brain in a very exciting way. It helps develop new brain skills, which are often overlooked by traditional teaching methods.

5. A Mind Map consists of a central word or concept, around the central word you draw the 5 to 10 main ideas that relate to that word. You then take each of those child words and again draw the 5 to 10 main ideas that relate to each of those words. In this way a large number of related ideas can quickly be produced with virtually no mental effort. The concept of 'writers block' is hard to understand once you have grasped the use of this simple technique!

6. Mind Map are tools that help us think and remember better, creatively solve problems and take action. The Mind Map encourages creativity and flexibility, and you need these to make your resolutions happen! Mind Maps help you think outside the box. If you've already made your list, try turning it into a Mind Map. If you haven't made your list yet, try this strategy.

7. A Mind Map is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It harnesses the full range of cortical skills – word, image, number, logic, rhythm, color and spatial awareness – in a single, uniquely powerful manner. In so doing, it gives you the freedom to roam the infinite expanses of your brain. The Mind Map can be applied to every aspect of life where improved learning and clearer thinking will enhance human performance.

2.2 Basic Principles

- The subject of attention is crystallized in a central image
- The main themes of the subject radiate from the central image on branches.
- Branches hold a key image / word printed on the associated line - details radiate out

The branches form a connected nodal structure

2.3 Key features of Mind Map

- Organization the Idea
- Using Key Words
- Association
- Clustering
- Visual Memory –
- Print the key words
- Use color
- Symbols
- Icons
- 3D-effects
- Arrows
- Outlining groups of words
- Outstanding ness - every Mind Map needs a unique center Conscious involvement

2.4 Example



Figure 2 : Example of a mind map

3. Testing

3.1 Implementation of testing:

For the testing of the Mind Map Version 1.0.0, a batch of student of BRAC University under English Language Program (ELPRO) is chosen. As they are from English Language program Essay planning option of the software is taken for testing. Two hour of interactive session is conducted with students to test the software. Eleven students have taken part of this session. All of them have provided a PC having the software. First of all, it elaborately explained to them how the software works. Then the students were asked to use the software for planning an essay. Throughout the testing process, students get the help to know how the software has to use. Using the software the students draw mind maps to plan an essay on particular topic. After this, the students are asked to write an essay using the mind map. When they completed their essay writing, a set of ten feedback questionnaire is given to the student. This set of questions is carefully prepared to take feedback from the student. So students have got the opportunity to give their opinion about the software. The questions set are given bellow:

Table 1 Feedback Question

1. Is the software easy to use? If yes, why?	
2. In normal situation how do you organize your essay?	
3. Does the software helpful to you to organize your essay? Give one point supporting your answer.	
4. Do the questions helpful for you? Why or why not?	

5. Do the questions relate your ideas to writing the essay? Why or why not?	
6. Do the questions relate with your essay topic?	
7. Write one or two question that you think should be added in the software?	
8. What are the difficulties you face to use this software?	
9. What are the new features that you think to add in this software?	
10. Give any suggestion for improvement of the software.	

After all these testing output* materials were collected from the students.

*In appendix A of this report a set of testing output is attached.

3.2 Findings

- Many students are used to memorize the whole essay
- Students are not used to plan an essay
- Using the software is a new way of writing an essay
- Software helps to plan an essay
- Software gives the representation of information in graph
- It is time consuming
- Questions are not specified for different types of essays
- Question are needed to elaborate
- Some key options are missing like save, edit etc

4. Improvements

4.1 Develop the software to plan eight different types of essays

In Mind Map Version 2.0.0, eight different sets of question database is developed to help student to plan eight different types of essays. These knowledge base questions are developed with the help of different websites, consulted study guide and papers related to topic. The questions database is given as a table substance in next few pages.

Table 2.1 Descriptive essay

Serial no.	Questions
1	What is your topic name?
2	What or whom do you describe?
3	What is your reason for writing this description?
4	What are the particular qualities that you want to focus on?
5	How you want to describe the person / thing / event?
6	What do you want the reader to feel after reading the paper?
7	What is your focusing sentence?
8	What is the order to describe the qualities?
9	How do you describe the qualities?
10	Why are these particular instances important?
11	What sights, smells, sounds, tastes and textures are important to develop your description?
12	How can you explain above events?
13	What is the relation of the time with above events?
14	What is the environment of your describing thing / person?
15	What the relationship with other object of your describing thing / person / event?
16	What types of images can describe the thing / person / event?
17	What are the small but important things that can describe the thing / person /event?
18	How do you describe these small but important things?
19	Why are these particular instances important?
20	What is the most exciting part of your description?
21	How is it most exciting?
22	What are the other things that can help to describe the thing /person /event?
23	How these can help to describe?
24	What is your concluding statement?
25	How you feel when you describe the thing / person /event?

Table 2.2 Definition essay

Serial no.	Questions
1	What is your topic name?
2	What is the thing that you want to define?
3	What is the dictionary or traditional definition of the topic?
4	How do you explain dictionary or traditional definition part by part?
5	What is the simple definition of the topic?
6	What is your focusing sentence?
7	How do you explain the focusing statement?
8	How do you elaborate the definition?
9	What points help you to do this?
10	What are the other definitions of the topic?
11	How do you classify the topic?
12	What is the history about the topic?
13	How do you support this history?
14	What are the uses of the subject?
15	How do these uses relate with the subject?
16	What is the incident that can help to explain the subject?
17	How do you compare the subject with other thing?
18	What is contradictory image of the subject?
19	How do you explain this?
20	What is the strong but a vivid definition of the subject?
21	What example do you want to add to define the subject more clearly?
22	How do you do that?
23	What is the concluding statement?
24	What is the point that justifies your concluding statement?
25	What phrase do you want to add?

Table 2.3 Compare/contrast essay

Serial no.	Questions
1	What is your topic name?
2	What are the two things to compare / contrast?
3	How can you describe first thing?
4	What are the main features of first thing?
5	How can you describe second thing?
6	What are the main features of second thing?
7	What is your focusing sentence?
8	What are the similarities of the two things?
9	Why these are similar?
10	How can you describe these?
11	What is the most similar instance among two?
12	What do you make sure about this?
13	What are the other things that are similar to them?
14	What are the differences among two things?
15	Why these are different?
16	How can you mention it?
17	What is the main difference among two?
18	What is the least difference among two?
19	Do the differences permanent?
20	Which one is more effect on them similarities / differences?
21	How it can effect?
22	What is your position about this instance?
23	How do you justify the statement?
24	What is the concluding statement?
25	How do you focus on it?

Table 2.4 Cause / Effect essay

Serial no.	Questions
1	What is your topic name?
2	What is the event you want to write in this cause/effect essay?
3	What is the main cause of the event?
4	What is the main effect of this cause?
5	How you can relate the main cause with the effect?
6	What is your focusing sentence?
7	How do you elaborate the focusing sentence?
8	What are the main causes of the event?
9	What sequence do you help to describe these?
10	Why do these causes occur?
11	How do you explain these causes?
12	How do the causes relate with one another?
13	What are the relationships of the time with causes?
14	What are the effects of the causes?
15	What sequence do you help to describe these?
16	How do you explain the effects?
17	What is your opinion about effect, positive / negative?
18	How do you justify your opinion?
19	How the effects can be resolved?
20	What is the most exciting part of your cause / effect essay?
21	How is it most exciting?
22	What anecdote (short and interesting story) do you want to write in this paragraph?
23	Why do you write this?
24	What is the concluding statement?
25	How do you justify your statement?

Table 2.5 Narrative essay

Serial no.	Questions
1	What is your topic name?
2	What event do you want to narrate?
3	What is your reason for writing this event?
4	What are the particular sequences that you want to focus on?
5	What anecdote (short and interesting story) do you want to write in this paragraph?
6	What do you want the reader to feel after reading the paper?
7	What is your focusing sentence?
8	What is the order to narrate the event?
9	How do you narrate the sequence of the event?
10	Why are these particular sequences important?
11	What persons and causes are important to narrate your event?
12	How can you explain above instances?
13	What is the relation of the time with above instances?
14	What is the environment of your narrating event?
15	What the relationship with other objects that help you to narrate the event?
16	What types of images can you need to narrate the event?
17	What are the small but important things that can narrate the event?
18	How do you narrate these small but important things?
19	Why are these particular instances important?
20	What is the most exciting part of your narrating event?
21	How is it most exciting?
22	What anecdote (short and interesting story) do you want to write in this paragraph?
23	Why do you write this?
24	What is your concluding statement?
25	What is the point that justifies your concluding statement?

Table 2.6 Process essay

Serial no.	Questions
1	What is your topic name?
2	What process are you trying to explain?
3	Why is it important?
4	Who or what does the process effect?
5	Does the process have definitions/name that needs to be clarified?
6	What knowledge do readers need to understand the process?
7	What is your focusing sentence for the process?
8	Whom or how the process implemented?
9	What skills/equipments are needed for the process?
10	How many steps are there in the process?
11	How long does the process take?
12	Is the outcome always same?
13	Why or why not the outcome always same?
14	What are the names of the steps to perform the process?
15	How the steps can be performing?
16	Why is each step important?
17	How long does the each steps of the process?
18	What difficulties are involved in each step?
19	How can they be overcome?
20	Are there different ways of doing the process? If so, what are they?
21	How do your way effective than other ways?
22	What are the crucial points of the process?
23	What are the cautions for the process?
24	What are the goals of the process?
25	What is your concluding statement?

Table 2.7 Augmentative essay

Serial no.	Questions
1	What is your topic name?
2	What do you want to augment?
3	What is the definition of the topic?
4	What are the particular sequences that you want to focus on?
5	What is your focusing sentence?
6	How can you elaborate your focusing sentence?
7	What anecdote (short and interesting story) do you want to write in this paragraph?
8	What is your main point for argument?
9	How can you explain it?
10	What is your example?
11	What persons and causes are important to clear your argument?
12	How can you explain above instances?
13	What is the relation of the time with above instances?
14	What is your second point for argument?
15	How can you explain it?
16	What is your example?
17	What is your third point for argument?
18	How can you explain it?
19	What is your example?
20	What is the strongest part of your argument?
21	How is it most strongest?
22	What are the other things that can help to describe the thing /person /event?
23	How these can strong your argument?
24	What is your concluding statement?
25	What is the point that justifies your concluding statement?

Table 2.8 Critical essay

Serial no.	Questions
1	What is your topic name?
2	What is the literary work (poem, novel, play) that you want to criticize?
3	Who is the writer of this literary work?
4	When did he write it?
5	Where did this literary work published?
6	What is your focusing sentence?
7	How do you elaborate it?
8	What did the writer write in the literary work?
9	How did he write it?
10	What do you think about the writer's point of view?
11	How do you explain it?
12	What is the environment of the writer of this literary work?
13	What make you confirm about that?
14	What are the critics points that you want to raise?
15	Why do you raise these points?
16	How do you explain your critics' points?
17	What are the facts of your critics?
18	How do you relate these facts with critics' points?
19	How do you explain it?
20	What is the judgment about the literary work?
21	How do you elaborate it?
22	What example do you want to add?
23	How do you do that?
24	What is the concluding statement?
25	What is the point that justifies your concluding statement?

4.2 Develop the software to make it more users friendly

In Mind Map Version 2.0.0 is developed as more users friendly then version 1.0.0. It has more key options like SAVE, EDIT etc. demanded by the user in testing part and also solve the other necessary problem that faced by the user.

5. Implementation & Testing

5.1 Software Used

- Microsoft Visual Basic (Main Tool)
- Microsoft Access2003 (Knowledge Base)
- Adobe Photoshop (Design)

5.2 How software works

At first start_up_frm comes. Using the option of Essay , essay planning can choose.

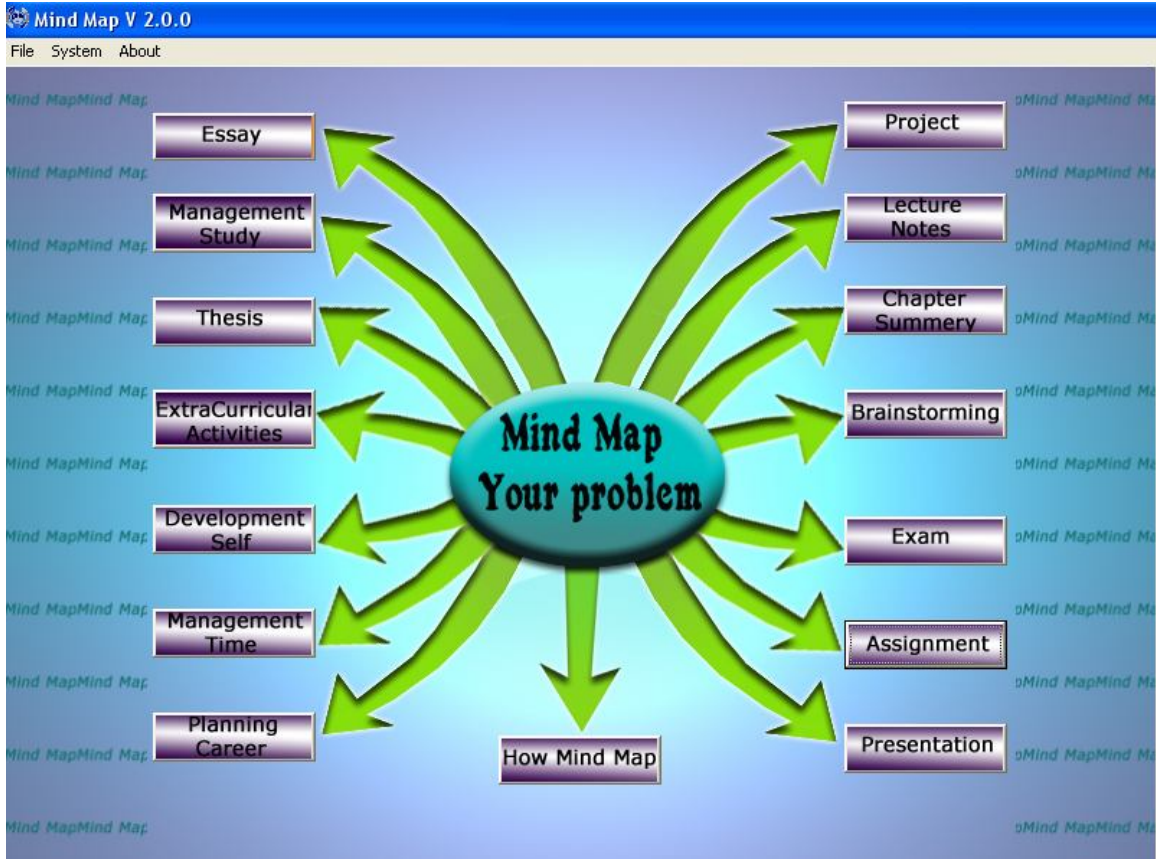


Figure 3 : strat_up_frm

After selecting the Essay, the selection_frm appeared. From this any kind of essay can choose.

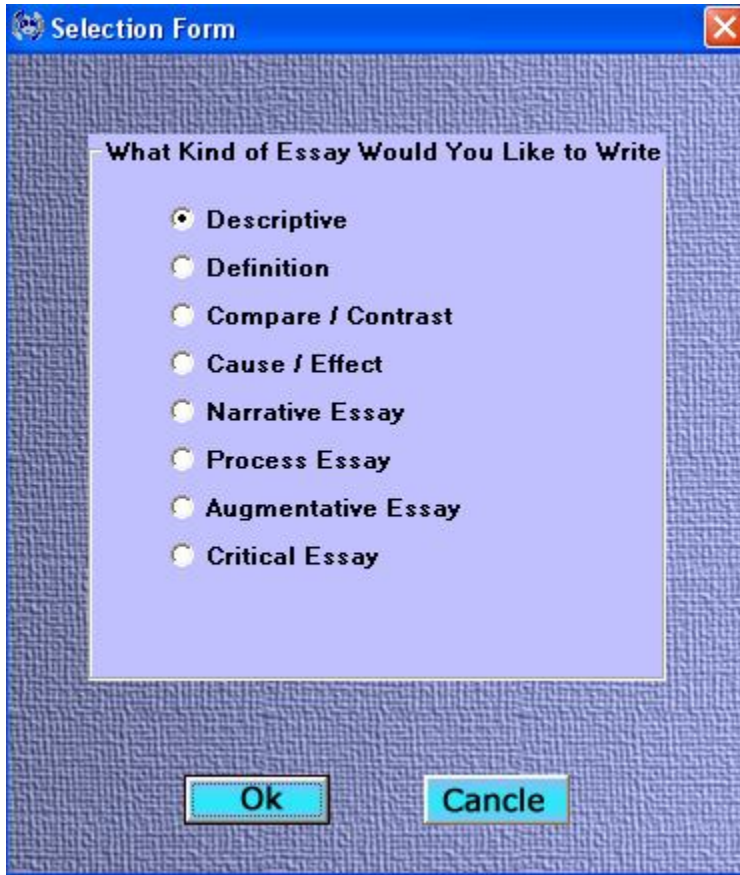


Figure 4 : selection_frm

When an specific type of essay is chosen, then draw_frm appeared. Using this frm user can draw a mind map where in each step a question arrived to fill the each node of the mind map.

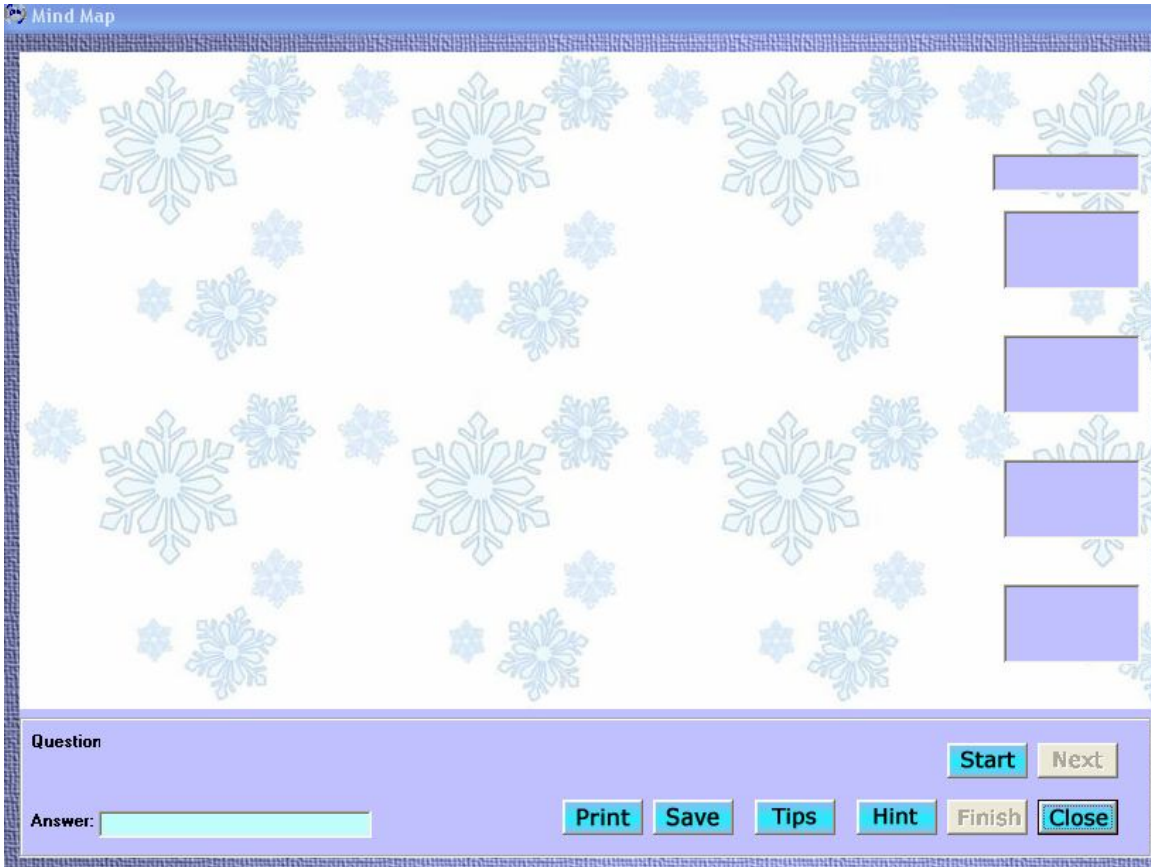


Figure 5 : draw_frm

When a mind map is completed, draw_fm looks like bellow.

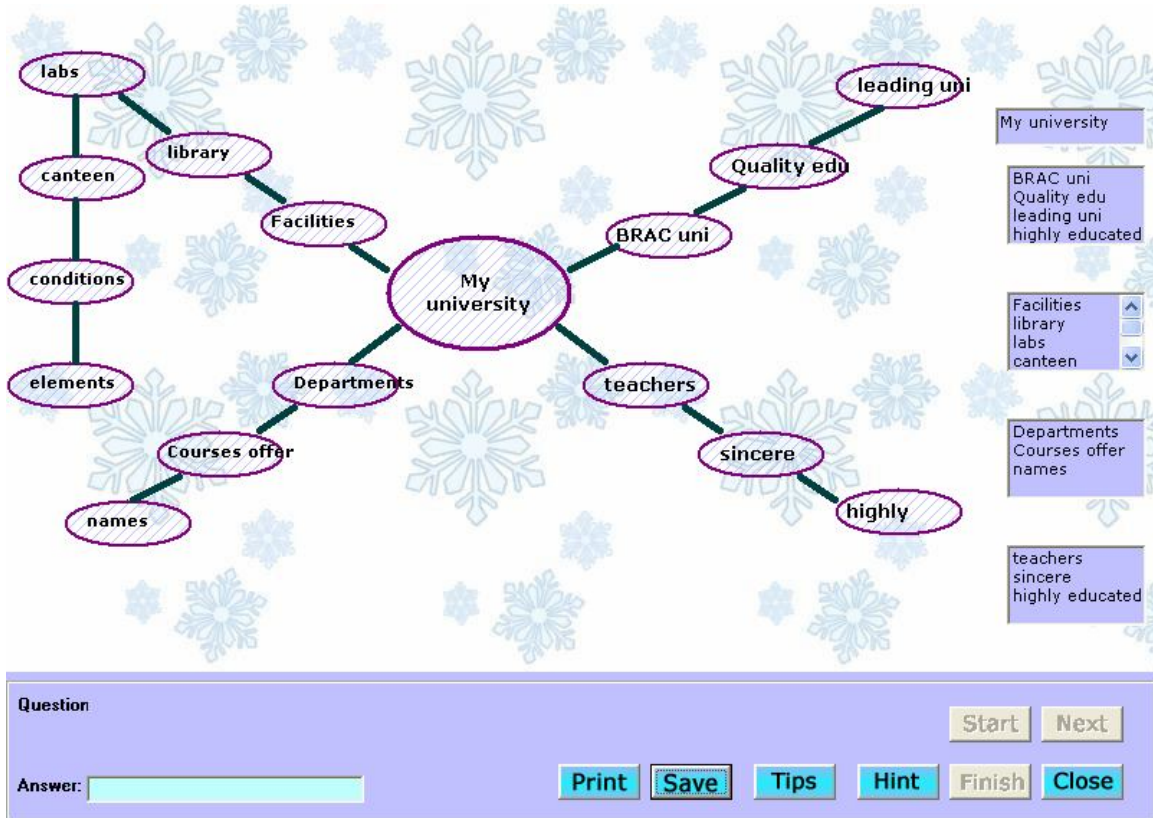


Figure 6 : Complete mind map

5.3 Source Code

Mind_Map-start_up_frm(code)

```
Private Sub about_dev_Click()  
about_us_frm.Show  
End Sub
```

```
Private Sub about_soft_Click()  
about_soft_frm.Show  
End Sub
```

```
Private Sub assign_Click()  
about_assign.Show  
End Sub
```

```
Private Sub assign1_Click()  
help_assign.Show  
End Sub
```

```
Private Sub assignment_Click()  
Inactive_Button  
draw_map_frm.center_label.Caption = "Assignment"  
draw_map_frm.Show  
End Sub
```

```
Private Sub augment_Click()  
augmentative.Show  
End Sub
```

```
Private Sub brainst_Click()  
BrainStor.Show  
End Sub
```

```
Private Sub brainstorming_Click()  
Inactive_Button  
draw_map_frm.center_label.Caption = "Brainstorming"  
draw_map_frm.Show  
End Sub
```

```
Private Sub bstrom1_Click()  
help_brain.Show  
End Sub
```

```
Private Sub cas_Click()  
cause.Show  
End Sub
```

```
Private Sub chap_sum_Click()  
ChapterSummary.Show  
End Sub
```

```
Private Sub chapter_summery_Click()  
Inactive_Button  
draw_map_frm.center_label.Caption = "Chapter Summery"  
draw_map_frm.Show  
End Sub
```

```
Private Sub comp_Click()  
comp1.Show  
End Sub
```

```
Private Sub critical_Click()  
critical1.Show  
End Sub
```

```
Private Sub CS1_Click()  
help_CS.Show  
End Sub
```

```
Private Sub def_Click()  
defination.Show  
End Sub
```

```
Private Sub des_Click()  
desc.Show  
End Sub
```

```
Private Sub dev_self_Click()  
DevelopmentSelf.Show  
End Sub
```

```
Private Sub development_self_Click()  
Inactive_Button  
draw_map_frm.center_label.Caption = "Development Self"  
draw_map_frm.Show  
End Sub
```

```
Private Sub do_again_Click()  
Dim i As Integer
```



```

Active_Button
draw_map_frm.center_oval.Visible = False
draw_map_frm.cen_ovl_ans.Visible = False
draw_map_frm.cen_ovl_ans.Caption = ""

draw_map_frm.htree.Text = "0"
draw_map_frm.hiden.Text = "0"
draw_map_frm.start.Enabled = True
draw_map_frm.Next.Enabled = False
draw_map_frm.finish.Enabled = False
draw_map_frm.answer.Enabled = False
draw_map_frm.question.Caption = ""
draw_map_frm.answer.Text = ""

For i = 0 To 23
    draw_map_frm.oval(i).Visible = False
    draw_map_frm.line5(i).Visible = False
    draw_map_frm.ilabel(i).Visible = False
    draw_map_frm.ilabel(i).Caption = ""
Next

start_up_frm.do_again.Enabled = False
End Sub

Private Sub DS1_Click()
help_development_self.Show
End Sub

Private Sub em_Click()
examination.Show
End Sub

Private Sub ess_Click()
about_essay.Show
End Sub

Private Sub essay_Click()
Inactive_Button
selection_frm.Show

draw_map_frm.center_label.Caption = "Essay"
End Sub

Private Sub exam_Click()
Inactive_Button

```

```
mm.Show
draw_map_frm.center_label.Caption = "Exam"
draw_map_frm.Show
End Sub
```

```
Private Sub exam1_Click()
help_exam.Show
End Sub
```

```
Private Sub exca1_Click()
help_ECA.Show
End Sub
```

```
Private Sub exit_Click()
End
End Sub
```

```
Private Sub ext_cur_act_Click()
```

```
Extra_Curricular_Activities.Show
End Sub
```

```
Private Sub extra_curricular_activities_Click()
Inactive_Button
mm.Show
draw_map_frm.center_label.Caption = "Ext. Curricular Activities"
draw_map_frm.Show
End Sub
```

```
Private Sub Form_Load()
Open_DB
End Sub
```

```
Private Sub how_m_map_Click()
howMindMap.Show
End Sub
```

```
Private Sub how_mind_map_Click()
Inactive_Button
mm.Show
draw_map_frm.center_label.Caption = "How Mind Map"
draw_map_frm.Show
End Sub
```

```
Private Sub Label1_Click()
draw_map_frm.Visible = True
```

End Sub

Private Sub Lc1_Click()

help_ln.Show

End Sub

Private Sub lec_note_Click()

lecture.Show

End Sub

Private Sub lecture_notes_Click()

Inactive_Button

mm.Show

draw_map_frm.center_label.Caption = "Lecture Notes"

draw_map_frm.Show

End Sub

Private Sub man_study_Click()

management_study1.Show

End Sub

Private Sub man_time_Click()

management_time1.Show

End Sub

Private Sub management_study_Click()

Inactive_Button

mm.Show

draw_map_frm.center_label.Caption = "Management Study"

draw_map_frm.Show

End Sub

Private Sub management_time_Click()

Inactive_Button

mm.Show

draw_map_frm.center_label.Caption = "Management Time"

draw_map_frm.Show

End Sub

Private Sub mp1_Click()

help_hmm.Show

End Sub

Private Sub MS1_Click()

help_ms.Show

End Sub

```
Private Sub MT1_Click()  
help_mt.Show  
End Sub
```

```
Private Sub narr_Click()  
narr1.Show  
End Sub
```

```
Private Sub PC1_Click()  
help_pc.Show  
End Sub
```

```
Private Sub plan_car_Click()  
PlanningCar.Show  
End Sub
```

```
Private Sub planning_career_Click()  
Inactive_Button  
mm.Show  
draw_map_frm.center_label.Caption = "Planning Career"  
draw_map_frm.Show  
End Sub
```

```
Private Sub pres_Click()  
help_presentation.Show  
End Sub
```

```
Private Sub pres2_Click()  
presentation1.Show  
End Sub
```

```
Private Sub presentation_Click()  
Inactive_Button  
mm.Show  
draw_map_frm.center_label.Caption = "Presentation"  
draw_map_frm.Show  
End Sub
```

```
Private Sub process_Click()  
process1.Show  
End Sub
```

```
Private Sub proj_Click()  
ProjectM.Show
```

End Sub

```
Private Sub projec1_Click()  
help_project.Show  
End Sub
```

```
Private Sub project_Click()  
Inactive_Button  
mm.Show  
draw_map_frm.center_label.Caption = "Project"  
draw_map_frm.Show  
End Sub
```

```
Private Sub thes_Click()  
thesis_frm.Show  
End Sub
```

```
Private Sub thesis_Click()  
Inactive_Button  
mm.Show  
draw_map_frm.center_label.Caption = "Thesis"  
draw_map_frm.Show  
End Sub
```

```
Public Sub Active_Button()  
start_up_frm.assignment.Enabled = True  
start_up_frm.brainstorming.Enabled = True  
start_up_frm.chapter_summery.Enabled = True  
start_up_frm.development_self.Enabled = True  
start_up_frm.essay.Enabled = True  
start_up_frm.exam.Enabled = True  
start_up_frm.extra_curricular_activities.Enabled = True  
start_up_frm.how_mind_map.Enabled = True  
start_up_frm.lecture_notes.Enabled = True  
start_up_frm.management_study.Enabled = True  
start_up_frm.management_time.Enabled = True  
start_up_frm.planning_career.Enabled = True  
start_up_frm.presentation.Enabled = True  
start_up_frm.project.Enabled = True  
start_up_frm.thesis.Enabled = True  
End Sub
```

```
Public Sub Inactive_Button()  
start_up_frm.assignment.Enabled = False  
start_up_frm.brainstorming.Enabled = False  
start_up_frm.chapter_summery.Enabled = False
```

```
start_up_frm.development_self.Enabled = False
start_up_frm.essay.Enabled = False
start_up_frm.exam.Enabled = False
start_up_frm.extra_curricular_activities.Enabled = False
start_up_frm.how_mind_map.Enabled = False
start_up_frm.lecture_notes.Enabled = False
start_up_frm.management_study.Enabled = False
start_up_frm.management_time.Enabled = False
start_up_frm.planning_career.Enabled = False
start_up_frm.presentation.Enabled = False
start_up_frm.project.Enabled = False
start_up_frm.thesis.Enabled = False
End Sub
```

```
Private Sub thesis1_Click()
help_thesis.Show
End Sub
```

Mind_Map-selection_frm(code)

```
Private Sub cancel_Click()  
selection_frm.Visible = False  
start_up_frm.Enabled = True  
End Sub
```

```
Private Sub ok_Click()  
selection_frm.Visible = False
```

```
draw_map_frm.Type_Selection  
mm.Show  
draw_map_frm.Show  
End Sub
```

Mind_Map-draw_map_frm(code)

```
Private Sub cen_ovl_ans_Click()  
edit.Visible = True
```

```
End Sub
```

```
Private Sub close_Click()  
draw_map_frm.Visible = False  
mm.Visible = False  
draw_map_frm.htree.Text = "0"  
start_up_frm.do_again.Enabled = True  
End Sub
```

```
Private Sub Command1_Click()  
tips.Show  
End Sub
```

```
Private Sub Command2_Click()  
picsave.Show  
End Sub
```

```
Private Sub Command3_Click()  
On Error GoTo block1  
draw_map_frm.PrintForm  
Exit Sub  
block1:  
MsgBox "Printer Not Found", vbCritical, "Warning"  
End Sub
```

```
Private Sub edit_Change()  
ok.Visible = True  
End Sub
```

```
Private Sub finish_Click()  
draw_map_frm.htree.Text = "0"  
draw_map_frm.next.Enabled = False  
draw_map_frm.answer.Enabled = False  
draw_map_frm.question.Caption = ""  
draw_map_frm.answer.Text = ""  
End Sub
```



```
Private Sub hint_Click()  
FromHintsMP.Show  
End Sub
```

```
Private Sub ilabel_Click(Index As Integer)  
If Index = 0 Then  
tx0.Visible = True  
ElseIf Index = 1 Then  
tx1.Visible = True  
ElseIf Index = 2 Then  
tx2.Visible = True  
ElseIf Index = 3 Then  
tx3.Visible = True  
ElseIf Index = 4 Then  
tx4.Visible = True  
ElseIf Index = 5 Then  
tx5.Visible = True  
ElseIf Index = 6 Then  
tx6.Visible = True  
ElseIf Index = 7 Then  
tx7.Visible = True  
ElseIf Index = 8 Then  
tx8.Visible = True  
ElseIf Index = 9 Then  
tx9.Visible = True  
ElseIf Index = 10 Then  
tx10.Visible = True  
ElseIf Index = 11 Then  
tx11.Visible = True  
ElseIf Index = 12 Then  
tx12.Visible = True  
ElseIf Index = 13 Then  
tx13.Visible = True  
ElseIf Index = 14 Then  
tx14.Visible = True  
ElseIf Index = 15 Then  
tx15.Visible = True  
ElseIf Index = 16 Then  
tx16.Visible = True  
ElseIf Index = 17 Then  
tx17.Visible = True  
ElseIf Index = 18 Then  
tx18.Visible = True  
ElseIf Index = 19 Then  
tx19.Visible = True
```

```
ElseIf Index = 20 Then
tx20.Visible = True
ElseIf Index = 21 Then
tx21.Visible = True
ElseIf Index = 22 Then
tx22.Visible = True
ElseIf Index = 23 Then
tx23.Visible = True
End If
```

```
End Sub
```

```
Private Sub next_Click()
On Error GoTo Error_Block
```

```
Dim temp_cnt As Integer
Dim buff_cnt As Integer
Dim act_ol As Integer
Dim diff As Integer
Dim temp_buff As Integer
Dim con_buff As String
Dim reply As String
Dim true1 As Boolean
Dim true2 As Boolean
Dim true3 As Boolean
Dim true4 As Boolean
Dim ihtree As Integer
Dim ihiden As Integer
```

```
true1 = False
true2 = False
true3 = False
true4 = False
```

```
Dim temp As Integer
temp = 0
```

```
Set ques = New ADODB.Recordset
```

```
temp_cnt = draw_map_frm.htree.Text
temp_buff = temp_cnt
act_ol = draw_map_frm.hiden.Text
```

```
If temp_cnt = 0 Then
    If answer.Text = "" Then
        MsgBox "Fill the Answer Box then Proceed", vbCritical, "Warning"
```

```

'draw_map_frm.htree.Text = temp_cnt
Else
center_oval.Visible = True
cen_ovl_ans.Visible = True
cen_ovl_ans.Caption = answer.Text
main_idea.Text = answer.Text
answer.Text = ""

buff_cnt = temp_buff + 2
con_buff = buff_cnt

If draw_map_frm.center_label.Caption = "Project" Then
ques.Open "SELECT Question FROM Project_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Essay" Then
ques.Open "SELECT Question FROM Essay_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Descriptive" Then
ques.Open "SELECT Question FROM Descriptive_Table WHERE Serial_No
= "" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Defination" Then
ques.Open "SELECT Question FROM Defination_Table WHERE Serial_No =
"" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Compare / Contrast" Then
ques.Open "SELECT Question FROM Compare_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Cause / Effect" Then
ques.Open "SELECT Question FROM Cause_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Narrative Essay" Then
ques.Open "SELECT Question FROM Narrative_Table WHERE Serial_No =
"" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Process Essay" Then
ques.Open "SELECT Question FROM Process_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Augmentative Essay" Then
ques.Open "SELECT Question FROM Augmentative_Table WHERE
Serial_No = "" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Critical" Then
ques.Open "SELECT Question FROM Critical_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Management Study" Then
ques.Open "SELECT Question FROM MStudy_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Thesis" Then

```

```

        ques.Open "SELECT Question FROM Thesis_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Ext. Curricular Activities" Then
        ques.Open "SELECT Question FROM ECA_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Development Self" Then
        ques.Open "SELECT Question FROM DSelf_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Management Time" Then
        ques.Open "SELECT Question FROM MTime_Table WHERE Serial_No = "
& con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Planning Career" Then
        ques.Open "SELECT Question FROM PC_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "How Mind Map" Then
        ques.Open "SELECT Question FROM HMM_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Lecture Notes" Then
        ques.Open "SELECT Question FROM LN_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Chapter Summery" Then
        ques.Open "SELECT Question FROM CS_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Brainstorming" Then
        ques.Open "SELECT Question FROM BS_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Exam" Then
        ques.Open "SELECT Question FROM Exam_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Assignment" Then
        ques.Open "SELECT Question FROM Assign_Table WHERE Serial_No = "
& con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Presentation" Then
        ques.Open "SELECT Question FROM Presen_Table WHERE Serial_No = "
& con_buff & "", DB, adOpenDynamic, adLockOptimistic
        End If

```

```

        question.Caption = ques("Question")
        draw_map_frm.answer.SetFocus

```

```

        temp_buff = temp_buff + 1
        draw_map_frm.htree.Text = temp_buff

```

```

    End If

```

```

Else

```

```

    If answer.Text = "" Then

```

```

        MsgBox "Fill the Answer Box then Proceed", vbCritical, "Warning"

```

```

draw_map_frm.htree.Text = temp_cnt
Else
act_ol = draw_map_frm.hiden.Text
draw_map_frm.oval(temp_cnt + act_ol - 1).Visible = True
draw_map_frm.line5(temp_cnt + act_ol - 1).Visible = True
draw_map_frm.ilabel(temp_cnt + act_ol - 1).Visible = True
draw_map_frm.ilabel(temp_cnt + act_ol - 1).Caption = answer.Text

If temp_cnt + act_ol - 1 = 2 Then
    reply = MsgBox("After this Question Are You Want to Extend this Branch",
vbQuestion + vbYesNo, "Confirmation")
    If reply = vbNo Then
        diff = 6 - temp_cnt
        draw_map_frm.hiden.Text = diff
        temp = temp + 3
        List1.AddItem (answer.Text)
        true1 = True
    End If
End If

If temp_cnt + act_ol - 1 = 8 Then
    reply = MsgBox("After this Question Are You Want to Extend this Branch",
vbQuestion + vbYesNo, "Confirmation")
    If reply = vbNo Then
        diff = 12 - temp_cnt
        draw_map_frm.hiden.Text = diff
        temp = temp + 3
        List2.AddItem (answer.Text)
        true2 = True
    End If
End If

If temp_cnt + act_ol - 1 = 14 Then
    reply = MsgBox("After this Question Are You Want to Extend this Branch",
vbQuestion + vbYesNo, "Confirmation")
    If reply = vbNo Then
        diff = 18 - temp_cnt
        draw_map_frm.hiden.Text = diff
        temp = temp + 3
        List3.AddItem (answer.Text)
        true3 = True
    End If
End If

If temp_cnt + act_ol - 1 = 20 Then

```

```

        reply = MsgBox("After this Question Are You Want to Extend this Branch",
vbQuestion + vbYesNo, "Confirmation")
    If reply = vbNo Then
        diff = 6 - temp_cnt
        draw_map_frm.hiden.Text = diff
        temp = temp + 3
        List4.AddItem (answer.Text)
        true4 = True
    End If
End If

ihtree = htree.Text
ihiden = hiden.Text
If true1 = False And (ihtree + ihiden) < 7 Then
    List1.AddItem (answer.Text)
End If
If true2 = False And ((ihtree + ihiden) > 6 And (ihtree + ihiden) < 13) Then
    List2.AddItem (answer.Text)
End If
If true3 = False And ((ihtree + ihiden) > 12 And (ihtree + ihiden) < 19) Then
    List3.AddItem (answer.Text)
End If
If true4 = False And (ihtree + ihiden) > 18 Then
    List4.AddItem (answer.Text)
End If

buff_cnt = temp_buff + act_ol + 2 + temp
con_buff = buff_cnt

If draw_map_frm.center_label.Caption = "Project" Then
    ques.Open "SELECT Question FROM Project_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Essay" Then
    ques.Open "SELECT Question FROM Essay_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Descriptive" Then
    ques.Open "SELECT Question FROM Descriptive_Table WHERE Serial_No
= "" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Defination" Then
    ques.Open "SELECT Question FROM Defination_Table WHERE Serial_No =
"" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Compare / Contrast" Then
    ques.Open "SELECT Question FROM Compare_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Cause / Effect" Then

```

```

ques.Open "SELECT Question FROM Cause_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Narrative Essay" Then
ques.Open "SELECT Question FROM Narrative_Table WHERE Serial_No =
" & con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Process Essay" Then
ques.Open "SELECT Question FROM Process_Table WHERE Serial_No = "
& con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Augmentative Essay" Then
ques.Open "SELECT Question FROM Augmentative_Table WHERE
Serial_No = " & con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Critical" Then
ques.Open "SELECT Question FROM Critical_Table WHERE Serial_No = "
& con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Management Study" Then
ques.Open "SELECT Question FROM MStudy_Table WHERE Serial_No = "
& con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Thesis" Then
ques.Open "SELECT Question FROM Thesis_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Ext. Curricular Activities" Then
ques.Open "SELECT Question FROM ECA_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Development Self" Then
ques.Open "SELECT Question FROM DSelf_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Management Time" Then
ques.Open "SELECT Question FROM MTime_Table WHERE Serial_No = "
& con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Planning Career" Then
ques.Open "SELECT Question FROM PC_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "How Mind Map" Then
ques.Open "SELECT Question FROM HMM_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Lecture Notes" Then
ques.Open "SELECT Question FROM LN_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Chapter Summery" Then
ques.Open "SELECT Question FROM CS_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Brainstorming" Then
ques.Open "SELECT Question FROM BS_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Exam" Then

```

```

        ques.Open "SELECT Question FROM Exam_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Assignment" Then
        ques.Open "SELECT Question FROM Assign_Table WHERE Serial_No = "
& con_buff & "", DB, adOpenDynamic, adLockOptimistic
        ElseIf draw_map_frm.center_label.Caption = "Presentation" Then
        ques.Open "SELECT Question FROM Presen_Table WHERE Serial_No = "
& con_buff & "", DB, adOpenDynamic, adLockOptimistic
        End If

        draw_map_frm.answer.Text = ""
        draw_map_frm.answer.SetFocus
        question.Caption = ques("Question")

        temp_buff = temp_buff + 1
        draw_map_frm.htree.Text = temp_buff
    End If
End If
Exit Sub

```

Error_Block:

```

MsgBox "Question Database is Empty", vbCritical, "Warning"
draw_map_frm.start.Enabled = False
draw_map_frm.next.Enabled = False
draw_map_frm.finish.Enabled = False
draw_map_frm.question.Caption = ""
draw_map_frm.answer.Text = ""
draw_map_frm.answer.Enabled = False
End Sub

```

Public Sub Type_Selection()

```

If selection_frm.descriptive.Value = True Then
    sel_type = "Descriptive"
    draw_map_frm.center_label.Caption = "Descriptive"
ElseIf selection_frm.defination.Value = True Then
    sel_type = "Defination"
    draw_map_frm.center_label.Caption = "Defination"
ElseIf selection_frm.com_con.Value = True Then
    sel_type = "Compare / Contrast"
    draw_map_frm.center_label.Caption = "Compare / Contrast"
ElseIf selection_frm.cau_eff.Value = True Then
    sel_type = "Cause / Effect"
    draw_map_frm.center_label.Caption = "Cause / Effect"
ElseIf selection_frm.narrative.Value = True Then
    sel_type = "Narrative Essay"
    draw_map_frm.center_label.Caption = "Narrative Essay"

```



```

ElseIf selection_frm.process.Value = True Then
    sel_type = "Process Essay"
    draw_map_frm.center_label.Caption = "Process Essay"
ElseIf selection_frm.augmentative.Value = True Then
    sel_type = "Augmentative Essay"
    draw_map_frm.center_label.Caption = "Augmentative Essay"
ElseIf selection_frm.critical.Value = True Then
    sel_type = "Critical"
    draw_map_frm.center_label.Caption = "Critical"
End If
End Sub

```

```

Private Sub ok_Click()
main_idea.Text = edit.Text
cen_ovl_ans.Caption = edit.Text
edit.Text = "Enter Text here"
edit.Visible = False
ok.Visible = False
End Sub

```

```

Private Sub start_Click()
On Error GoTo Error_Block

```

```

Dim temp_cnt As Integer
Dim buff_cnt As Integer
Dim con_buff As String

```

```

Set ques = New ADODB.Recordset

```

```

temp_cnt = draw_map_frm.htree.Text
buff_cnt = temp_cnt + 1
con_buff = buff_cnt

```

```

If draw_map_frm.center_label.Caption = "Project" Then
    ques.Open "SELECT Question FROM Project_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Essay" Then
    ques.Open "SELECT Question FROM Essay_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic
ElseIf draw_map_frm.center_label.Caption = "Descriptive" Then
    ques.Open "SELECT Question FROM Descriptive_Table WHERE Serial_No = " &
con_buff & "'", DB, adOpenDynamic, adLockOptimistic

```

```

ElseIf draw_map_frm.center_label.Caption = "Defination" Then
    ques.Open "SELECT Question FROM Defination_Table WHERE Serial_No =
" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Compare / Contrast" Then
        ques.Open "SELECT Question FROM Compare_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Cause / Effect" Then
        ques.Open "SELECT Question FROM Cause_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Narrative Essay" Then
        ques.Open "SELECT Question FROM Narrative_Table WHERE Serial_No =
" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Process Essay" Then
        ques.Open "SELECT Question FROM Process_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Augmentative Essay" Then
        ques.Open "SELECT Question FROM Augmentative_Table WHERE
Serial_No = "" & con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Critical" Then
        ques.Open "SELECT Question FROM Critical_Table WHERE Serial_No = ""
& con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Management Study" Then
        ques.Open "SELECT Question FROM MStudy_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Thesis" Then
        ques.Open "SELECT Question FROM Thesis_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Ext. Curricular Activities" Then
        ques.Open "SELECT Question FROM ECA_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Development Self" Then
        ques.Open "SELECT Question FROM DSelf_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Management Time" Then
        ques.Open "SELECT Question FROM MTime_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Planning Career" Then
        ques.Open "SELECT Question FROM PC_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "How Mind Map" Then
        ques.Open "SELECT Question FROM HMM_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Lecture Notes" Then
        ques.Open "SELECT Question FROM LN_Table WHERE Serial_No = "" &
con_buff & """, DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Chapter Summery" Then

```

```

    ques.Open "SELECT Question FROM CS_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Brainstorming" Then
        ques.Open "SELECT Question FROM BS_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Exam" Then
        ques.Open "SELECT Question FROM Exam_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Assignment" Then
        ques.Open "SELECT Question FROM Assign_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
    ElseIf draw_map_frm.center_label.Caption = "Presentation" Then
        ques.Open "SELECT Question FROM Presen_Table WHERE Serial_No = " &
con_buff & "", DB, adOpenDynamic, adLockOptimistic
    End If

```

```

question.Caption = ques("Question")

```

```

draw_map_frm.answer.Enabled = True
draw_map_frm.start.Enabled = False
draw_map_frm.next.Enabled = True
draw_map_frm.finish.Enabled = True

```

Exit Sub

Error_Block:

```

MsgBox "Question Database is Empty", vbCritical, "Warning"
draw_map_frm.start.Enabled = False
draw_map_frm.next.Enabled = False
draw_map_frm.finish.Enabled = False

```

End Sub

```

Private Sub tx0_Change()

```

```

    bt0.Visible = True

```

End Sub

```

Private Sub tx1_Change()

```

```

    bt1.Visible = True

```

End Sub

```

Private Sub tx2_Change()

```

```

    bt2.Visible = True

```

End Sub

```

Private Sub tx3_Change()

```

```

    bt3.Visible = True

```

End Sub

```
Private Sub tx4_Change()  
bt4.Visible = True  
End Sub
```

```
Private Sub tx5_Change()  
bt5.Visible = True  
End Sub
```

```
Private Sub tx6_Change()  
bt6.Visible = True  
End Sub
```

```
Private Sub tx7_Change()  
bt7.Visible = True  
End Sub
```

```
Private Sub tx8_Change()  
bt8.Visible = True  
End Sub
```

```
Private Sub tx9_Change()  
bt9.Visible = True  
End Sub
```

```
Private Sub tx10_Change()  
bt10.Visible = True  
End Sub
```

```
Private Sub tx11_Change()  
bt11.Visible = True  
End Sub
```

```
Private Sub tx12_Change()  
bt12.Visible = True  
End Sub
```

```
Private Sub tx13_Change()  
bt13.Visible = True  
End Sub
```

```
Private Sub tx14_Change()  
bt14.Visible = True  
End Sub
```

```
Private Sub tx15_Change()  
bt15.Visible = True  
End Sub
```

```
Private Sub tx16_Change()  
bt16.Visible = True  
End Sub
```

```
Private Sub tx17_Change()  
bt17.Visible = True  
End Sub
```

```
Private Sub tx18_Change()  
bt18.Visible = True  
End Sub
```

```
Private Sub tx19_Change()  
bt19.Visible = True  
End Sub
```

```
Private Sub tx20_Change()  
bt20.Visible = True  
End Sub
```

```
Private Sub tx21_Change()  
bt21.Visible = True  
End Sub
```

```
Private Sub tx22_Change()  
bt22.Visible = True  
End Sub
```

```
Private Sub tx23_Change()  
bt23.Visible = True  
End Sub
```

Mind_Map-DBConnector(code)

Global DB As New ADODB.Connection

Public Sub Open_DB()

DB.Open "Provider=Microsoft.Jet.OLEDB.4.0;Data Source=Ques_Database.mdb;Persist
Security Info=False", "Admin", ""

End Sub

Public Sub Close_DB()

DB.Close

End Sub

5.4 Testing

The new version of the software is provided to the student for use. Some of them take it to home to use the software. Using this version student again gave the feedback on Mind Map Version 2.0.0 using the following set of questions.

Table 3 Feedback Question on Mind Map Version 2.0.0

1. Do you use the software at home to write essay?	
2. How does it help you throughout this semester?	
3. What are the improvements you find in this version of the software from previous one?	
4. Do you think, your previous suggestions implemented in this version of the software?	
5. How are the different questions sets help to write different types of essay?	
6. What are the difficulties you face to use this software?	
7. What are the new features that you think to add in this software?	

5.5 Feedback

- The software helps with essay assignment
- Help to organize whole essay
- Help to think more quickly for eight different types of essays
- See whole information for an essay in one graph
- Putting points lead to write complete topic
- Easily separate different ideas and sub ideas of essay
- Not to memorize the whole essay
- Easy to use
- Help to think more as there are more specific questions
- No way to miss the information
- No unrelated ideas
- Students suggestions are implemented in the Mind Map Version 2.0.0

6. Conclusions

Mind Map Version 2.0.0 is not a necessary tool to write an essay. But this software provides the opportunity to user to plan eight different types of essays. This software provides specific set of question to draw a mind map for specific type of essay which ensures user to plan essay more organized way and more information base. Users can organize an essay more effectively using this specifically the eight types of essays that are included. Those who have no idea about the mind map can also use this for planning essay. It is more useful for the beginner. Mind Map Version 2.0.0 is more users friendly and it is not for exam hall use as it is time consuming.

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Appendix A