



## IN SEMESTER (INDIVIDUAL) ASSIGNMENT

**Module Code: COMP 1007.1**

**Module Name: Visual Programming**

**Level: 5**

**Max. Marks: 100**

### Instructions to Student

- Answer *all* questions.
- Deadline of submission: 24/11/2021 23:59
- The marks received on the assignment will be scaled down to the actual weightage of the assignment which is 35% marks
- Formative feedback on the complete assignment draft will be provided if the draft is submitted at least 10 days before the final submission date.
- Feedback after final evaluation will be provided by : 09/12/2021

### Module Learning Outcomes

The student achieves the following LOs by completing the assignment successfully

- 1) Explore the visual programming environment and controls
- 2) Apply visual programming concepts to write event-driven programs
- 3) Design and develop applications with the support of an integrated development environment

### Assignment Objective

This is an individual assignment aimed to give students the experience to use visual programming language, create simple graphical user interfaces (GUI) with common controls and event-driven programs.

### Assignment Tasks

#### Task 1: Work Proposal

**(10 marks)**

Submit a work proposal for this assignment on or before: 27/10/2021, 23:59 which must include:

- General overview of proposed plan -initial understanding of solutions to all the tasks
- Timeline for completion of the given tasks.
- References [4 resources should be there from MEC E-resources in APA 7th edition referencing style.]

The work proposal must be submitted in a word file through the link available in Moodle

Task 2: VB.Net application

(80 Marks)

Choose any one information system from the given list below and create your own VB.Net Application. When you create your application, make sure to change the company name into your own company name as well as the logo. You have to design your VB forms appropriately and use different controls (like textbox, listbox, combo box, radio buttons, menustrip, progressbar, timer etc.) in your application. Your application should include the ALL requirements stated below.

**Note:** Each function or procedure of code should be fully commented on, clear label and ensure proper formatting of VB.net code.

Choose any one from the following list of system and ensure to employ the given requirements:

- HR Employee's Salary Calculation: The application should maintain employee details. The application should allow the user to enter increment (for example: 10% of Basic Pay) for a specific employee then it should automatically calculate the total salary of that particular employee based on employee's salary and some criteria, which you have to prepare. The current/calculated salary should be stored/updated in the database table. The application should provide an interface that will allow user to evaluate more than one employee at a time and will automatically calculate the total salary of all the employees evaluated. Error message should be displayed if the entered increment is more than 100 and the evaluation process should not be processed/displayed.
- Sales/Order System: The application should maintain details of products/items available. The application should allow user to choose any products/items the customer purchases and should request the user to enter the quantity bought for each product/item being purchased. Upon this process, the stock on hand and total of all purchases should be automatically calculated by the application. The application should provide an interface that will allow user to do multiple product purchases for a single customer and should automatically calculate the overall total to be paid based on the purchased products/items. Error message should be displayed if the quantity bought is greater than the stock and the transaction should not be processed/displayed.
- Library management System: The application should maintain details about the different books in the library. The application should allow user to lend books to students. A student can take only 5 books for a period of 1 month. Upon this process of borrowing/returning

books, the available number of books that can be borrowed should be updated and amount to be paid as fine should be automatically calculated. The application should provide an interface that will allow user to borrow multiple books for a single student and should automatically calculate the overall fine to be paid on late submission. Error message should be displayed if the number of books that can be lent is greater than the limit and transaction should not be processed/displayed.

- Car Rental System: The application should maintain details about the cars for rent. The application should allow user to choose from the list of cars for rent and should accept number of days to be rented from the user. The application should automatically calculate the amount to be paid for the rented car based on the entered number of days to be rented and should update the status of that specific/chosen car to “rented”. The application should provide an interface that will allow user to process multiple car rentals on a single transaction/customer and should automatically calculate the overall total to be paid on the rented cars. Error message should be displayed if the chosen car to rent is already rented and transaction should not be processed/displayed.
- Hotel Room Reservation: The application should maintain details about the different rooms in the hotel. The application should allow the user to choose from the list of rooms and should accept number of days the room will be reserved. The application should automatically calculate the amount to be paid for the reserved room on the entered number of days to be reserved and should update the availability of the specific/chosen room to “reserved”. The application should provide an interface that will allow user to process multiple room reservations on a single transaction/customer and should automatically calculate the overall total to be paid on the reserved rooms. Error message should be displayed if the chosen room is already reserved and transaction should not be processed/displayed.

### Requirements

**Task 2.1.** Write about introduction and explain the key features and scope of the information system selected by you from the above list. (20 marks)

**Task 2.2.** Create and Design a VB.Net application for login form - Create at least two different users with different level of access/privileges. The login form should validate the given username and password and will display appropriate messages if invalid data is entered. If valid username and password are entered, a splash screen will be displayed and then the main form/menu will be displayed with all the functionalities/operations that can be performed by the user. A user can have only at most Five (3) attempts to login. After three invalid attempts, the application/program should be closed automatically.

Password should not be readable. A button “Clear” is to be used to clear all the fields so that the next user logon to the system. Create at least two panels for the interface presentation. A button “Exit” is to be used to close the application with explanations of the methods involved. (30 marks)

**Task 2.3.** Create and Design a VB.Net application for Splash screen. This form will show the name of your system as well as the logo. Create and design your own company name and logo. This will be displayed only if the entered username and password are valid with explanations of the methods involved.

(15 marks)

**Task 2.4.** Create and Design a VB.Net application for Main Menu – a form that will contain all the functionalities a valid user can perform based on his/her level of access/privileges. (e.g. Maintenance, transaction, simple, and export report) with explanations of the methods involved. (15 marks)

**Task 3. Prepare a report to present the work done from task 2. The report should consist of the following. (10 marks)**

- A cover page to identify your work (Student ID, Student Name, Module Code, Module Name)
- Use a table of contents for your report
- Clear label and introduction of each task followed by the coding, output screen of that task. Include comments wherever possible to enhance the clarity of your coding
- Ensure proper formatting of your report

**Note 1: These tasks will be extended in the subsequent assignment.**

**Note 2: The information system selected for assignment 1 shall also be applied assignment 2.**

### **Rules & Regulations:**

- All resources should be cited using APA 7th edition referencing style.
- The final assignment must have a Title page, Table of Contents, References/ bibliography using APA 7th edition referencing style and page numbers.
- Title Page must have Assignment Name, Module name, Session, your name, ID, and the name of the faculty.
- Softcopy in word format is to be submitted through Turnitin link on Moodle.
- Viva will be conducted after the assignment submission as per the dates informed earlier.

### **Guidelines:**

- Assignment must be computer typed.
  - Font - Times New Roman
  - Font – Style - Regular
  - Font - Size - 12
  - Heading should be with Font Size 14, Bold, Capital and Underline.

- Each student has to do the assignment individually
- You can refer books in eLibrary or use internet resource. However, you should not cut and paste material from internet nor provide photocopied material from books. The assignment answers should be in your own words after understanding the matter from the above resources.
- The screen design with their proper source codes.
- Vb.net code must be types and screenshot/image not acceptable
- Assignment documentation/report should be typed.
- Handwritten assignments will not be accepted

### Important Policies to be followed

#### 1. Student Academic Integrity Policy\*:

- MEC upholds the spirit of academic integrity in all forms of academic work and any form of violation of academic integrity shall invite severe penalty. Any benefit obtained by indulging in the act of violation of academic integrity shall be cancelled.
- MEC also reserves the right to notify the appropriate law enforcement authorities of any unlawful activity and to cooperate thereafter in any investigation of such activity.
- Faculty can conduct a viva to investigate and ascertain that the work submitted is student's own work as per the guidelines for the same. **A student can be given a maximum of two chances to attend the viva in such cases. It is expected that the student attend the viva during the first chance itself unless due to extenuating circumstances. If the student does not attend the viva in spite of being given two chances and fails to submit valid reasons, he/she will be awarded a fail in the module and this shall be counted as a case of academic integrity violation.**

All cases of violation of academic integrity on the part of the student shall fall under any of the below mentioned categories:

1. Plagiarism
2. Malpractice
3. Ghost Writing
4. Collusion
5. Other cases

If the student fails a module and has a proven case of academic integrity violation in this module, the student is required to re-register the module. This is applicable to first and second offence of academic integrity violation of plagiarism type

**a. First Offence of Academic Integrity Violation:**

**i. Plagiarism**

- a. If a student is caught first time in an act of academic integrity violation during his/her course of study in any assignment other than project work and if the type of violation is plagiarism, then the student will be allowed to re-submit the assignment once as per the period allowed for re submission However, a penalty of deduction of 25% of the marks obtained for the resubmitted work will be imposed.
- b. Period of re-submission: The student will have to re-submit the work within one week (5 working days) from the date he or she is advised to re-submit.
- c. Re-submission of the work beyond the allowed period of resubmission will not be accepted and the assessment will be awarded a zero mark.
- d. If the re-submitted work (within the allowed period of resubmission) is also found to be plagiarized, then that assessment component will be awarded a zero mark. It shall also contribute to the total count of academic integrity violation for that student.
- e. If plagiarism is detected in UG Project work (Project 1, Project Planning and Project Design and Implementation), the above clauses do not apply, and the work will be summarily rejected. In these cases the student will be awarded a fail (F) grade and is required to reregister the module.

**ii. Malpractice / Ghostwriting / Collusion**

If a student is caught first time in an act academic integrity violation during his/her course of study for an assessment component irrespective of coursework or end semester and if the type of violation is Malpractice/Ghostwriting/Collusion, then the student shall fail the module.

**b. Second Offence of Academic Integrity Violation:**

**i. Plagiarism**

- a. If any student is caught second time in an act of academic integrity violation during his/her course of study and if the type of violation is plagiarism, then the student will not be allowed to resubmit the work, and s/he will directly be awarded zero for the work in which plagiarism is detected.
- b. The student shall also receive a warning of suspension in such cases.

**ii. Malpractice/Ghostwriting/Collusion**

- a. If a student is caught a second time in an act academic integrity violation for an assessment component irrespective of coursework or end semester and if the type of violation is Malpractice/Ghostwriting/Collusion, then the student shall fail the module.
- b. The student shall also receive a warning of suspension in such cases.

**c. Third Offence of Academic Integrity Violation:**

- a. If a student is caught a third time in an act of academic integrity violation for an assessment component irrespective of coursework or end semester then the student shall fail the module and also shall be suspended for one semester from the College, once the academic integrity violation case is confirmed by Institutional Assessment Review Committee.
- b. The student shall be suspended for the immediate subsequent semester and can register for modules only after having served the suspension period fully. This is also applicable for semesters offered in block mode.
- c. During the suspension period, the student shall have to mandatorily complete a course on academic integrity/writing before s/he can register for any modules.
- d. During the period of suspension, the student shall be allowed to attempt supplementary examinations if s/he is eligible for the same. S/he shall also be allowed access to all college facilities permitted for a regular student except for registering the modules.

**d. Fourth Offence of Academic Integrity Violation:**

- a. If a student is caught a fourth time in an act of academic integrity violation for an assessment component irrespective of coursework or end semester, the student shall fail the module and also shall be expelled from the College, once the case is confirmed by Institutional Assessment Review Committee.
- b. The student shall be expelled from the college and all access to the college facilities and premises shall cease to exist. The documents shall be released only after getting the NOC (No Objection Certificate) from Registration Office.
- c. `On termination, the student shall not be refunded any fees paid for the academic semester in which academic integrity violation was observed.

**e. Other cases**

If a student commits an act of academic integrity violation as per the definition of “other cases” mentioned in the previous section or of a different nature, student’s case shall be forwarded to an Institutional Assessment Review Committee, Chaired by the Associate Dean, Academic Affairs. The committee shall investigate the case by means of a viva and/or a hearing of the parties concerned if required and shall take appropriate decision. The penalty that can be granted to a proven case of academic integrity violation which falls in this category of “other cases” can be a warning/component zero/ module fail/suspension/expulsion depending on the nature and gravity of the offence.

**f. Types/Variations of cases of Plagiarism and associated actions**

**Type 1:** In case plagiarism is detected in any component or part submission (submitted at different times) of one assessment (assignment), the deduction in marks will be applicable for the whole assessment (assignment), even if only the component or part submission alone needs to be resubmitted.

**Type 2:** In case plagiarism is detected in a group assessment, all students of the group will be considered as having committed an act of plagiarism irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all students.

If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied as per the policy for each student according to his / her history of violations.

**Type 3:** Combination of Type 1 and Type 2: In case plagiarism is detected in any component or part submission (submitted at different times) of a group assessment (assignment), the deduction in marks will be applicable for the whole assessment (assignment), even if only the component or part submission alone needs to be resubmitted. All students of the group would be considered as having committed an act of plagiarism irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all the students of the group.

If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied as per the policy for each student according to his / her history of violation.

**Type 4: Variation of Type 1 and Type 2:** In cases where the assessment consists of components or part submissions that could be a group assessment component (e.g. group assignment) and an individual assessment component (e.g. individual reflection), the following will be applicable:

- a. If plagiarism is detected in the group assessment component, all students of the group will be considered as having committed an act of plagiarism, irrespective of whether plagiarism is on account of the act of all or a few or only one member. The policy will then be applied to all students of the group. In such cases the group assessment component will be resubmitted.  
  
If some students in the group are eligible to re-submit (first offence) and others are not eligible, only eligible students will be allowed to re-submit within a period of one week and the penalty will be applied for each student according to his / her history of violation.
- b. If plagiarism is detected in the individual assessment component, the individual assessment component will be resubmitted - if the student is eligible for resubmission-. The policy will then be applied to that student alone.



- c. In both cases (a) and/or (b), the deduction in marks will be applicable for the whole assessment (assignment).

**g. Types/Variation of Cases of Multiple Offences**

If student is caught with multiple violations of same or different nature in different modules of the same semester, they will be considered as one offence and student will be penalized for each violation according to the type of the offence.

If student is caught with multiple violations of same or different nature in the same module of the same semester, then they will be considered as different offences and each will contribute to the overall count of AIV. The student then shall be penalized for each violation according to the count and type of each offence.

*\* For further details Refer to MEC Student Academic Integrity Policy in Student Handbook.*

## **2. Late Submission Regulations:**

It is the students' responsibility to check all relevant timelines related to assessments.

As per the Assessment Policy at MEC, late submissions are allowed for one week (5 working days) for all UG modules with a penalty. In such cases, a deduction of 5% of the marks obtained for the submitted work shall be imposed for each working day following the last date of submission till the date of actual submission. Assessment documents submitted beyond a period of one week (5 working days) after the last date of submission will not be accepted and will be awarded a zero for that assessment. In cases where the submission has been delayed due to extenuating circumstances, the student may be permitted to submit the work without imposing the late submission policy stated above. The extended period of submission will be one week from the original last date of submission. In such cases, the student is expected to submit the supporting certificates on or before the original last date of submission of the assessment and the decision of extension rests with faculty responsible for the assessment. The late submission policy shall be applied if the student fails to submit the work within one week of the original last date of submission.

Students may contact their teachers for clarification on specific details of the submission time if required.

## **3. Research Ethics and Biosafety Policy**

To protect and respect the rights, dignity, health, safety, and privacy of research subjects involved including the welfare of animals and the integrity of environment, all student projects are expected to be undertaken as per the MEC Research Ethics and Biosafety Policy. Accordingly the following shall apply.

- Research and other enterprise activities shall be conducted by maintaining the high ethical standards consistent with national and international standards and conventions.

- Any research at MEC that is categorized as high-risk research shall be subject to review and approval by the Research Ethics and Biosafety Committee.
- Research activities involving collection of human or animal tissues and manipulation of microbial, animal or plant cells shall be subject to review and approval by the Research Ethics and Biosafety Committee.
- Participants involved in research must be informed about the purpose of research and intended uses of research findings. Written consent must be obtained from people involved prior to the commencement of research.
- Data obtained from participants must be treated with high confidence and should be used only for the intended purpose of research.

### Assessment Evaluation Criteria

| Classification<br>And % Range <to be given<br>as per requirement> | Reflection and critical<br>analysis.  | Knowledge and<br>Understanding/<br>Application of Theory  | Evidence of Reading   | Referencing and<br>Bibliography   | Presentation, Grammar<br>and Spelling  |
|---|---|---|---|---|--|
| Outstanding   | Highly competent analytical skills and reflective practice, demonstrating personal learning and growth, insight into required professional values and principles and professional development planning.               | Extensive knowledge and depth of understanding of principles and concepts and /or outstanding application of theory in practice.                        | Evidence of reading an extensive range of educational literature/research and where applicable workplace strategies, policies and procedures. | Accurate referencing and bibliography correctly using appropriate referencing style         | Excellent presentation, logically structured, using correct grammar and spelling, excellent cross-referencing and links to supporting evidence |
| Excellent   | Strong analytical skills and reflective practice used, demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning.      | Excellent knowledge and understanding of principles and concepts and /or excellent knowledge and understanding of the application of theory in practice | Evidence of reading a wide range of educational literature/research and where applicable, workplace strategies, policies and procedures.      | Appropriate referencing and bibliography correctly using appropriate referencing style      | Good presentation, competently structured, using correct grammar and spelling, clear and easy to use links to supporting evidence              |
| Very Good Quality   | Good use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning.       | Good knowledge or key principles and concepts and/or good knowledge of the application of theory in practice  | Evidence of reading a good range of educational literature/research and where applicable workplace strategies, policies and procedures.       | Generally well referenced with correct use of the appropriate referencing style             | Reasonable presentation, completely structured, acceptable grammar and spelling, acceptable links to supporting evidence                       |
| Good (Acceptable)   | Acceptable use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values, principles and competencies and professional development planning. | Acceptable knowledge of key principles and concepts and/or knowledge of the application of theory in practice   | Evidence of reading an appropriate range of educational literature/research and where applicable, relevant workplace policies and procedures  | Adequate referencing. Generally accurate use of appropriate referencing style               | Adequate presentation and structure, acceptable grammar and spelling, adequate links to supporting evidence                                    |
| Adequate/ Satisfactory  | Adequate use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required professional values,  | Adequate knowledge of key principles and concepts and/or satisfactory evidence of the application of theory in practice.                                | Evidence of minimal reading of educational literature/research and where applicable relevant workplace policies and procedures                | Adequate referencing. Appropriate referencing style used but may contain some inaccuracies. | Weak presentation , satisfactory structure, grammar and spelling, links to supporting evidence   |

## Visual Programming (COMP 1007.1) – Fall -21 – CW1 (Assignment) – All – QP

|  |  |   |  |   |   |
|--|--|---|--|---|---|
|  | principles and competencies and professional development planning.   |   |  |   |   |
| Weak /Poor<br><br>(all learning outcomes not adequately met) | <p>Little use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required competencies and/or professional development planning. Professional values and principles not reflected in the submission.</p> <p>and/or</p> <p>Insufficient/no use of analytical skills and reflective practice demonstrating personal learning and growth, insight into required competencies and professional development planning</p> | <p>Little evidence of knowledge of key principles or concepts and/or little evidence of the application of theory in practice</p> <p>and/or</p> <p>No evidence of knowledge of key principles or concepts and/or no evidence of application of theory in practice</p> | <p>Little or no evidence of reading outside of the course textbook and/or reference to relevant work place policies and procedures</p> <p>and/or</p> <p>No evidence of reading outside of the course textbook and/or reference to relevant workplace policies and procedures</p> | <p>Little or no referencing, incorrect style, or very inaccurate use of appropriate referencing style</p> | <p>Poor presentation, grammar and spelling, links to supporting evidence</p> <p>and/or</p> <p>Unacceptable presentation, grammar and spelling, structure is very poor, links to supporting evidence</p> |



Visual Programming (COMP 1007.1)

Fall 2021

Student ID:

Student Name:

Case Study with Presentation Evaluation Grid

| Deliverables                | 0-1                               | 2-3  | 4-5  | 6-8   | 9-10   | Marks |
|-----------------------------|-----------------------------------|--|--|---|--|-------|
| Proposal                    | No or Poor Submission             | Poor explanation of tasks and timelines given. Few Resources identified.                                   | Average explanation of tasks and timelines given. Few Resources identified.  | Good explanation of tasks and timelines given. Few Resources identified.                                  | Proper explanation of tasks and timelines given. Resources identified.                           |       |
| Deliverables                | 0-5                               | 6-10   | 11-16  | 16-18   | 19-20  | Marks |
| Brief of Information System | Poor explanation or no attempt    | Introduction of information system, functionality and scope discussed with fewer details.                  | Provides a clear but shallow summary of the Introduction of information system, functionality and scope            | Introduction of information system, and scope discussed with sufficient details. Operations is missing.   | Introduction of information system, functionality and scope are clearly identified and justified |       |
| Deliverables                | 0-1                               | 2-3  | 4-5  | 6-8   | 9-10   | Marks |
| Login Form                  | Poor implementation or no attempt | Attempted development but have errors on common controls with poor explanation                             | Attempted development but have errors on common controls, input field code with average explanation                | Attempted development but few errors on common controls, input field code with good explanation           | All of the common controls, input field code implemented well and explained clearly              |       |
|                             | 0-5                               | 6-10   | 11-16  | 16-18   | 19-20  |       |
|                             | Poor implementation or no attempt | Attempted development but have errors from input field validation, access privileges with poor explanation | Attempted development but have errors from main input field validation, access privileges with average explanation | Attempted development but few errors from input field validation, access privileges with good explanation | All of the functionalities are properly implemented with clear explanation                       |       |
| Deliverables                | 0-2                               | 3-5  | 5-8  | 9-13  | 14-15  | Marks |
| Splash screen               | Poor implementation or no attempt | Attempted development but have errors from progress bar, timer with poor explanation                       | Attempted development but have errors from progress bar, timer with average explanation                            | Attempted development but few errors from progress bar, timer with good explanation                       | All of the functionalities are properly implemented with clear explanation                       |       |

**Visual Programming (COMP 1007.1) – Fall -21 – CW1 (Assignment) – All – QP**

| <b>Deliverables</b>                 | <b>0-2</b>  | <b>3-5</b>   | <b>5-8</b>  | <b>9-13</b>   | <b>14-15</b>   |  |
|-------------------------------------|---|--|---|---|--|--|
| Main Menu                           | Poor implementation or no attempt   | Attempted development but have errors on main menu, sub menu with poor explanation | Attempted development but have errors from menu script, sub menu with average explanation | Attempted development but few errors from menu script, sub menu good explanation  | All of the functionalities are properly implemented with clear explanation   |  |
| <b>Deliverables</b>                 | <b>0-5</b>  | <b>2-3</b>   | <b>4-5</b>  | <b>6-8</b>  | <b>9-10</b>  |  |
| Task 3-<br>Report/docum<br>entation | Report layout is not well formatted, consist only of the coding while the table of content and referencing and comments and explanation of code are missing |  |   | Report layout is well formatted with the coding but either the table of content or referencing or comments are missing or explanation are missing | Report layout is well formatted with the coding, the table of content, referencing comments included with detail explanation |  |

|                    |  |
|--------------------|--|
| <b>Total Marks</b> |  |
| <b>Penalty</b>     |  |
| <b>Final marks</b> |  |

**Signature of Teacher**