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| AIUB logo | **American International University Bangladesh**  **Department of Computer Science** |

**Bachelor of Science in Computer Science**

**Software ProjectI & II and ThesisPerformance Evaluation**

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| Title: | Virtual Health Manager | | | | | |
| Supervisor Name: | Abhijit Bhowmik | | | | | |
|  Software Project I | *  Software Project II | | Thesis | | Date of Defence:3thJan, 2021 | |
| Student Name | | Student ID | | Contribution % (Total 100%) | | Signature |
| Rasel, Abdulla Al Monim | | 17-34616-2 | | 25% | |  |

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|  |  | Level of Domain\* | | | | PO Assessed\*\* |
| C | P | A | S |
| CO1 | *Select* all relevant resources in depth for designing an engineering solution &Determine the level of novelty of Project/Thesis |  |  | 5 |  | 3 |
| CO2 | *Apply* in depth experiential analysis based on result acquired |  |  | 6 | CT | 4 |
| CO3 | *Use* appropriate tools in modelling the diagrams(SP) *Use* appropriate research methods in conducting thesis |  | 3 |  | CT | 5 |
| CO4 | *Choose* appropriate software engineering model in a software development environment(SP) |  |  | 5 | TS | 6 |
| CO5 | *Determine* the impact on Environment and Sustainability |  |  | 5 |  | 7 |
| CO6 | *Identify* the ethical issues that will arise in relation to conducting project and thesis [use of reference] | 1 |  |  |  | 8 |
| CO7 | *Demonstrate* proof of proper individual effort and Teamwork |  | 3 |  |  | 9 |
| CO8 | *Demonstrate* understanding with technical writing and presentation |  | 3 |  |  | 10 |
| CO9 | *Demonstrate* proof of proper Project/Thesis Management and Finance |  | 3 |  |  | 11 |
| CO10 | *Describe*the scope of independent and life-long learning | 2 |  |  |  | 12 |
| *C: Cognitive; P: Psychomotor; A: Affective; S: Soft-skills (CT: Critical Thinking, TS: Teamwork)*  *\*The numbers under the ‘Level of Domain’ columns represent the level of Bloom’s Taxonomy each CO corresponds to.*  *\*\* The numbers under the ‘PO Assessed’ column represent the PO each CO corresponds to.*   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **PO Achievement Record (Put Y or N)** | | | | | | | | | | | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | AssessmentTitle: | *Analyze* all relevant resources in depth for designing an engineering solution & Determine the level of novelty of project/Thesis | CO: | 01 | | PO: | 03 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Marking Criteria** | **Marks distribution (Maximum5X4 = 20)** | | | | | | **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** | | **Embracing**  **Diverse Solution** | Does not list or mentions alternative and divergent ideas and the approach considered has no justification | Lists out or mentions alternative and  divergent ideas but only single approach is considered | Recognizes and evaluates alternate and divergent ideas or process to solve the problem | Integrates alternate and divergent ideas or process to solve the problem |  | | **Contribution of the project** | No apparent contribution of the  work/project to the development of scientific concepts and it has not clearly  identified and/or documented. | Somecontribution of the work/project to the development of scientific concepts is identified but documentation lacks finesse. | Some contribution of the work/project to the development of scientific concepts is  identified and documented. | The contribution of the work/project to the development of scientific concepts is identified and well documented. |  | | **State of Art** | Does not utilize the state‐of‐art  technology and the results are obvious or easily anticipated. | Attempts to utilize the state‐of‐art  technology but results can be expected to  have a minor impact. | Utilizes the state‐of‐art  technology but results can be expected to  have a modest impact. | Makes the best use of state‐of‐art technology  and produced a significant result that is likely to  have a major impact. |  | | **Creativity** | The solution simply repeats already  established/common knowledge (e.g.  SWAT analysis). | Some creative solutions have been presented  but does not improve on previous approaches. | Some creative solutions have been presentedwhich incrementally improves on previous approaches. | Deep insight demonstrated and presets a creative solution to the real‐life problem. |  | | **Total Marks for PO3** | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | | AssessmentTitle: | *Apply* in depth experiential analysis based on result acquired | CO: | 02 | | PO: | 04 | | | | | | | |

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| **Marking Criteria** | | **Marks distribution (Maximum5X4 = 20)** | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** |
| **Methods -**  **Description of**  **process and**  **Setup** | | Description was general or did not include diagrams. Procedure was missing multiple  steps. Information provided is not  sufficient to replicate experiment. | Setup included descriptive text but diagrams  were scarcely used. Hence analysis seemed vague and ambiguous to be replicated. | Setup included descriptive text and diagramswere provided if appropriate. Analysis canbe reproduced using the steps provided. | Setup was documented completely. Method  was also documented completely and  accurately, making analysis easy to reproduce. |  |
| **Data Analysis** | | Data was incomplete. Only identified  obvious trends or found trends not fully supported by the data | Most of the data was complete and  Accuratelylabeled. But could not identify valid trends and could not make appropriate conclusions based on the data. Calculation documentations were not clear. | Most of the data was complete and  accurately labeled. Identified valid trends and made appropriate conclusions based on the data. Documented calculations made during data analysis. | All data was complete and accurately labeled.  Identified and described trends and made appropriate conclusions based on the data. Used statistical techniques to identify and analysis with appropriate calculations. |  |
| **Critical**  **Reflection** | | No discussion and/or reflection on the  research. Discussion only touches  trivial or very general points of criticism. | Only most obvious conflicts and  correspondences with existing literature are  identified. The value of the study is described,  but it is not related to existing research. | Mostly obvious and some critically identified conflicts andcorrespondences with existing literature. The value of the study is described and is mostly related to existing research. | Results are critically confronted with existing literature. In case of conflicts, the relative weight of own results and existing literature is assessed. |  |
| **Conclusion** | | Problem was restated. Conclusions were simplistic. No clear relationship between  conclusions and hypothesis/objectives. | Problem was restated. Statements and conclusions were based on the data collected. But could not develop a strong relationship  between conclusions and hypothesis. | Problem was restated. Statements and conclusions were based on the data collected. Showed a strong relationship  between conclusions and hypothesis. | Restated problem and hypothesis. Justified  design and methods of experiment. Findings  were discussed in detail. Conclusions directly address hypothesis. Statements and conclusions  were supported by the data. |  |
| **Total Marks for PO4** | | | | |  |

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| AssessmentTitle: | *Use* appropriate tools in modelling the diagrams (Soft. Project) *Use* appropriate research methods in conducting THESIS | CO: | 03 |
| PO: | 05 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X3 = 15)** | | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** | |
| **Appropriateness** | | Methods/tools appear to be inappropriate or unrelated to purpose and research questions/ software design | Methods/tools appear to be appropriate and related to purpose and research questions/software design | Methods/tools appear sound, appropriate and related to purpose and research questions/ software design | Methods/tools are highly appropriate for this type of project and are directly linked to the purpose and research questions. |  | |
| **Completeness** | | Incomplete and little description of methods/ diagrams | Partial description of methods/ diagrams | Moderately well written and mostly complete description of methods/ diagrams | Well written, detailed description of methods/ diagrams |  | |
| **Data Analysis using Tools/Methods** | | By using the adopted tools/ methods the data analysis is incomplete and inappropriate for the research/ project | By using the adopted tools/ methods the data analysis appears to be appropriate for the research/project but needs significant refinement | By using the adopted tools/ methods the data analysis is appropriate for the research/ project but needs some refinement. | By using the adopted tools/ methodsthe data analysis is highly appropriate for the research/ project and needs little or no refinement. |  | |
| **Total Marks for PO5** | | | | |  |

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| AssessmentTitle: | *Choose* appropriate software engineering model in a software development environment | CO: | 04 |
| PO: | 06 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X3 = 15)** | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** |
| **Content**  **Knowledge of the project/thesis** | | Student does not have grasp of information and cannot answer the questions about subject. | Student is uncomfortable with information and is able to answer only basic questions. | Student is at ease with content but fails to elaborate concept of the project/thesis | Student demonstrates full knowledge (more than required) with explanations and elaboration. |  |
| **Argumentation of Method selection** | | Does not articulate a position or argument. | Articulates a position or argument that is unfocused or ambiguous | Articulates a position or argument that is incomplete or limited in scope | Clearly articulates a position or argument |  |
| **Evidence of Argumentation** | | Doesn’t present enough evidence to support argument, even when prompted repeatedly | Does not present enough evidence to support argument, but augments when prompted | Presents limited evidence to support argument | Presents sufficient amount of evidence to support argument |  |
| **Total Marks for PO6** | | | | |  |

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| AssessmentTitle: | *Determine* the impact of Environment and Sustainability | CO: | 05 |
| PO: | 07 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X3 = 15)** | | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** | |
| **Impact on**  **Environment** | | Design project does not include or includes content/information that shows  little or no understanding of the impact on environment | Design project includes limited understanding  of project/thesis impact on the environment | Design project includes content/information  that shows adequate understanding  of the impact on the environment | Design project includes all possible  content/information that shows good  understanding of the impact on the environment |  | |
| **Life cycle analysis** | | Design project does not include or  includes content/information that shows little or no understanding of Life cycle analysis | Design project includes  content/information that shows some understanding of Life cycle analysis | Design project includes content/information  that shows adequate understanding  of Life cycle analysis | Design project includes all possible  content/information that shows good  understanding of Life cycle analysis |  | |
| **Uncertainty**  **analysis** | | Design project does not include  Uncertainty analysis with no technique to  achieve sustainability | Design project includes some  content/information that shows some  Uncertainty analysis but a proposed  technique to achieve sustainability | Design project includes some  content/information that shows adequate  Uncertainty analysis but a proposed  technique to achieve sustainability | Design project includes all possible  content/information of Uncertainty analysis and includes innovative technologies to achieve sustainability |  | |
| **Total Marks for PO7** | | | | |  |

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| AssessmentTitle: | *Identify* the ethical issues that will arise in the design of the system | CO: | 06 |
| PO: | 08 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X4 = 20)** | | | | | | |
| **Inadequate(1)** | **Satisfactory(2)** | **Good(3)** | **Excellent(4)** | **Marks** | | |
| **Stakeholder**  **Perspective** | | Students identify few and/or most obvious  stakeholders, perhaps stating their  positions in a limited way and/or  misrepresenting their positions. | Students explain the perspectives of general stakeholders and convey these. | Students explain the perspectives of major stakeholders and convey these with reasonable accuracy. | Students thoughtfully consider perspectives of diverse relevant stakeholders and articulate these with great clarity, accuracy, and empathy. |  | | |
| **Ethical Issues**  **Identification** | | Students begin to frame the Ethical Issues, but have difficulty separating primary and  secondary problems. If approaches to  address the problem are advocated, they  are quite general and may be naive. | Students can distinguish primary and secondary Ethical  Issues. There is evidence that they have begun to formulate credible  approaches to address Ethical Issues. | Students are generally successful in distinguishing primary and secondary Ethical  Issues with justification. There is evidence that they have begun to formulate credible  approaches to address Ethical Issues. | Students convincingly and accurately frame the Ethical Issues and parse it into sub‐problems, providing justification. They suggest detailed  and viable approaches to resolve the Ethical  Issues. |  | | |
| **Code of Ethics**  **Consideration** | | Students give passing attention to related  Code of Ethics considerations. They may focus only on obvious health and safety considerations and/or fair use of funds involving primary stakeholders. | Students are sensitive to relevant Code of  Ethics considerations.  Students make linkages between ethical considerations and  stakeholder interests. Students may identify  ethical dilemmas. | Students are sensitive to relevant Code of  Ethics considerations and discuss them in  context of the problem(s). Students make linkages between ethical considerations and  stakeholder interests. Students may identify  ethical dilemmas and discuss possible  tradeoffs. | Students clearly articulate relevant Code of Ethics considerations and address these in  discussing approaches to resolve the  problem(s). Students make linkages between  ethical considerations and stakeholder interests and discuss ways to mediate dilemmas or  suggest tradeoffs. |  | | |
| **Conclusions and related outcomes**  **(implications and consequences)** | | Conclusion is inconsistently tied to someof the information discussed; related  outcomes (consequences and  implications) are oversimplified. | Conclusion is tied to information  (because information is chosen to fit the  desired conclusion); | Conclusion is logically tied to information  (because information is chosen to fit the  desired conclusion); some related outcomes  are not clear. | Conclusions and related outcomes  (consequences and implications) are logical and reflect student’s informed evaluation and ability  to place evidence. |  | | |
| **Total Marks for PO8** | | | | | |  |

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| AssessmentTitle: | *Demonstrate*proof of proper individual effort and Teamwork | CO: | 07 |
| PO: | 09 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X4 = 20)** | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** |
| **Work planning**  **and execution** | | Lack of planning and poor execution of  generic plans. | Planning is done successfully but no execution of planned activities. | Some of planning and execution of planned activities was not established appropriately. | Well planned project and activities are in order according to chronology. Execution follows asplanned in Gantt chart. |  |
| **Meeting**  **Deadlines** | | Major the deadlines were not met and  some of the requirements (documents, files, forms etc) were missing. | Few deadlines were met but some of the requirements (documents, files, forms etc.) were missing. | Most of the deadlines were met but some ofthe requirements (documents, files, forms etc.)were missing. | All/Most of the deadlines were met with most of the requirements (documents, files, forms etc.) |  |
| **Budget** | | Little or No project budget was done, and expenses were irrational. | The project budget was not done  appropriately and some of the expenses exceeded the market value. | The project budget was not done  appropriately and some of the expenses exceeded the market value. | The project budget was done appropriately,  and overall expenses of the project was  reasonable (in compare with market value). |  |
| **Project Value** | | Project Value exceed too much to the  current market value and have no  Profitability. | Project Value is unreasonable to the current market value and may have limited Profitability. | Project Value is unreasonable to the current market value and may have limited Profitability. | Project Value is reasonable to the current market value and have promising Profitability. |  |
| **Total Marks for PO9** | | | | |  |

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| AssessmentTitle: | *Demonstrate* understanding with technical writing and presentation | CO: | 08 |
| PO: | 10 |

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| **Marking Criteria** | **Marks distribution (Maximum5X4 = 20)** | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** |
| **Abstract**  **Quality** | Project goal was poorly stated, capstone summary was unclear or too technical. There were several writing errors. | Project goal & capstone summary were clear but very technical. There were a few writing errors. | Project goal & capstone summary were clearand not overly technical. There were a fewwriting errors. | Project goal & capstone summary were clear,concise, and non‐technical. There were nowriting errors. |  |
| **Background**  **information and project goals** | Insufficient background information is  given; project goals and benefits are  poorly stated or missing. | Sufficient background information is given but the purpose and goals of the project require further elucidation. | Sufficient background information is given;  the purpose and goals of the project are adequately explained. | Thorough and relevant background information  is given; project goals are clear and easy to identify. |  |
| **Design approach,**  **testing, and**  **results** | Approach to the problem is weak or  flawed. Tests are inconclusive. Results are disappointing or incomplete. | Approach to the problem is adequate. Testing is conclusive but lacks diversity in test cases. Results therefore lack completeness. | Approach to the problem is adequate. Testing is good. Results are acceptable and  complete. | Approach to the problem is innovative. Testing is thorough, and results are robust and usable. |  |
| **Information**  **conveyed about design process and results** | Information is missing or difficult to  understand; further explanation is often  needed. | Information is present but lacks proper elucidation and at times is difficult to understand. | Information is present but at times is difficult to understand. | Information is thorough and relevant and at times enriches viewer’s knowledge and interest. |  |
| **Total Marks for PO10** | | | | |  |

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| AssessmentTitle: | *Demonstrate* proof of proper Project Management and Finance | CO: | 09 |
| PO: | 11 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X4 = 20)** | | | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** | | |
| **Contribution to the team**  **project/work** | | Does not collect any relevant information;  no useful suggestions to address team's  needs; | Collects basic, useful information related to the project but does not offer sufficient useful ideas to meet the team's needs; | Collects basic, useful information related to the project; occasionally offers useful ideas tomeet the team's needs; | Collects and presents to the team a great deal of relevant information; offers well‐developed  and clearly expressed ideas directly related to  the group's purpose. |  | | |
| **Taking**  **responsibility** | | Does not perform assigned tasks; often  misses meetings and, when present, does  not have anything constructive to say;  relies on others to do the work; | Partially performs all assigned tasks; attends meetings irregularly and occasionally participates and hence not reliable; | Performs all assigned tasks; attends meetings regularly and usually participates effectively;  generally reliable; | Performs all tasks very effectively; attends all  meetings and participates enthusiastically; very  reliable. |  | | |
| **Valuing other**  **team members** | | Often argues with team mates; doesn't let anyone else talk; occasional personal  attacks and "put‐downs"; wants to have things done his way and does not listen to alternate approaches; | Seldom listens to others' points of view; occasionally behaves in an oppressive manner; tries to force own ideologies on other; | Generally, listens to others' points of view; always uses appropriate and respectful  language; tries to make a definite effort to understand others' ideas; | Always listens to others and their ideas; helps  them develop their ideas while giving them full credit; always helps the team reach a fair  decision. |  | | |
| **Work**  **Distribution** | | Work load was not distributed equally and reasonable. Overall workload taken was not prominent or effective. | Workload was distributed perjuriously and unfairly; output of the work lacked completeness due to unrealistic deadlines | Acceptable work load was taken, and justifiedoutput of the work was demonstrated or presented | Equal or Most of the work was taken by the  member and well justified output were  demonstrated. |  | | |
| **Total Marks for PO11** | | | | | |  |

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| AssessmentTitle: | *Describe* the scope of independent and life-long learning | CO: | 10 |
| PO: | 12 |

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| **Marking Criteria** | | **Marks distribution (Maximum5X3 = 15)** | | | | |
| **Inadequate(1-2)** | **Satisfactory(3)** | **Good(4)** | **Excellent(5)** | **Marks** |
| **Motivation of the work** | | Explores theproject/thesis topic at a surface level, providing minimal insight indicating low interest in the subject area | Explores the project/thesis topic with some evidence of depth, providing occasional insight indicating mild interest in the subject area. | Explores the project/thesis topic with evidences awareness indicating interest in the area. | Explore the project/thesis topic with evidences rich awareness indicating intense interest in the area. |  |
| **Critical Thinking** | | RecallsFunctional/Procedural knowledge of existing solutions | Explains the existing solutions and applies in cases | Analyses and Evaluates  Conditional/Declarative knowledge with elements | Understands the concepts very well and creates new knowledge |  |
| **Future studies** | | Little or no discussion is present in the report about the scope of future studies in the subject area | The scope of future studies in the subject area is stated in the report | The scope of future studies is stated and discussed in some details in the report | The scope of future studies is stated and discussed elaborately with details of how this study can be extended in future endeavored |  |
| **Total Marks for PO12** | | | | |  |

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| **Total Marks**  **(180)** | **Converted into**  **100** | **Letter Grade** |
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