

**Dissertation Supervision Log Book**

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| **Institute** | Information and Communication Technology (ICT) |
| **Programme** | Bachelor of Science (Honours) in Software Development |
| **Dissertation Title** | Applying Supervised Machine Learning Techniques to Predict Auto Dealer Car Sales |
| **Supervisor** | Jean Paul Tabone |
| **Student** | Clive Smith |
| **Student ID No** | 00801L |

**Note**

1. It is the **student’s responsibility** to ensure that this logbook is correctly documented and maintained.
2. This logbook is to be submitted together with the dissertation.
3. The institute reserves the right **not to accept** the student’s dissertation for evaluation if this logbook is **not filled in correctly** and **duly signed** by the student and the supervisor as indicated.

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| **Meeting 1** | **Date: 28th June 2021** |
| **Issues discussed at the meeting**   * The issues with the current SOI and the current Project plan was not very adaptable and easy to progress on. * Potential ideas the next Project plan could be. * Understanding if there is enough research on the Topic. * Understanding the target market and target participants as well as Data Analysis tools that will be used. * Websites which can be used to find the relevant papers. * Programming language to be used. * Progress checkpoint until next meeting. | |
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| **Supervisor Recommendations**   * The current plan was not suitable for my interests and that I should progress on something which attracts my personal interest. * The final idea was to use Machine Learning techniques as a way of predicting new car Sales. * Ample research is available on the topic of both Machine Learning and Car manufacturing. * Online surveys will be used to communicate with Auto Dealers here in Malta. * The target market here in Malta would be of 116 Auto dealers, and with a 10% Margin of error and 95% Confidence, 53 respondents are needed to complete the online surveys. * As a language, Python will be used in order to use Machine Learning. * The next meeting held in 3 days’ time would require a fresh complete SOI in order to be finalized until the 2nd of July. | |
| **Date of Next Meeting** | **1st July 2021** |
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| **Meeting 2** | **Date: 1st July 2021** |
| **Issues discussed at the meeting**  While writing SOI:   * Problems and uncertainties including the hypothesis * What shall be written in the outline of key literature * What titles to use in outline of key literature * Data acquisition methods | |
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| **Supervisor Recommendations**   * Problems were cleared and explained thoroughly * Outline of key literature was helped with titles and subtitles * Which data acquisition methods are suitable, and how/why these are used * The preferred data acquisition method * Discussing different data acquisition methods * The next meeting held on 12th July to start the dissertation via Chapter 1 | |
| **Date of Next Meeting** | **12th July 2021** |
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| **Meeting 3** | **Date: 12th July 2021** |
| **Issues discussed at the meeting**   * How the dissertation shall be written * What shall be written on the overleaf project * How the dissertation shall be structured * What information is relevant to the project * Formatting uncertainties | |
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| **Supervisor Recommendations**   * Aiding writing tasks * Aiding writing methods * Providing guidelines on structuring and which data to include * Information was filtered to include only relevant and adequate writing * The next meeting held on 26th July to check whether provided information is correct and continue progressing in Chapter 2 | |
| **Date of Next Meeting** | **26th July 2021** |
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| **Meeting 4** | **Date: 26th July 2021** |
| **Issues discussed at the meeting**   * Issues with written information on Chapter 1 * Potential problems with Chapter 2 * The research that should be carried out in Chapter 2 * Information Requirements in Chapter 2 | |
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| **Supervisor Recommendations**   * 20 papers, Literature Map, and comparing and contrasting. * Issues shall be corrected upon evaluation * Discussed the literature already made and the further research to be made * Building on the information already compiled * How to build a Literature Map | |
| **Date of Next Meeting** | **16th August 2021** |
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| **Meeting 5** | **Date: 16th August 2021** |
| **Issues discussed at the meeting**   * Further discussion about Literature Review * Confirmation of extension to finalize Literature Review * Initialization of Prototype * Outline of what needs to be prepared in prototype by 16th October | |
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| **Supervisor Recommendations**   * Learning new language briefly until next meeting * Finalizing Literature review prior to next school period * Compiling Literature Review on Word Document instead of Overleaf to be used as draft * Methodologies and theories are to be compared and contrasted in the Literature Review | |
| **Date of Next Meeting** | **19th October 2021** |
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| **Meeting 6** | **Date: 19th October 2021** |
| **Issues discussed at the meeting**   * Discussed Literature Review issues. * Discussed Prototype and how it shall be made. * Survey and target market. * Discussed deadline of prototype and Surveys. | |
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| **Supervisor Recommendations**   * Literature Review issues such as compare, and contrast need to increase. * Understood better how the prototype will work. * Prototype and dataset shall be dealt with in the next two weeks. * The survey will contain Demographics, Knowledge on Machine Learning, and Feedback on the system. | |
| **Date of Next Meeting** | **9th November 2021** |
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| **Meeting 7** | **Date : 9th November 2021** |
| **Issues discussed at the meeting**   * Discussed further Literature Review after fixes. * Discussed Prototype issues. * Discussed Prototype deadline. * Survey discussion. | |
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| **Supervisor Recommendations**   * Missing information is to be filled in and a few sub-titles have been added for completion. * Prototype RMSE value is to be tested with small test data before actual dataset. * Extended Prototype deadline. * Survey shall be initialized and concluded for next week. | |
| **Date of Next Meeting** | **16th November 2021** |
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| **Meeting 8** | **Date : 16th November 2021** |
| **Issues discussed at the meeting**   * Discussed final touches of literature review * Correction of literature Map * Discussed Survey suggestions * Discussed Plan for December/January | |
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| **Supervisor Recommendations**   * One chapter to edit * Literature map correction * Extension of Survey deadline/suggested questions * Survey and Final Literature review changes to be concluded next week while prototype for next meeting. | |
| **Date of Next Meeting** | **7th December 2021** |
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| **Meeting 9** | **Date : 7th December 2021** |
| **Issues discussed at the meeting**   * Prototype questions and debugging. * Chapter 3 introduction. * Survey re-evaluation. * Solutions to Prototype. | |
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| **Supervisor Recommendations**   * Prototype links have been sent in aid of completing debugging. * Discussed how long data collection from surveys will take approx. 1 week. * Survey finalized. * Chapter 3 to be initialized. | |
| **Date of Next Meeting** | **4th January 2022** |
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| **Meeting 10** | **Date : 4th January 2022** |
| **Issues discussed at the meeting**   * Discussed problems faced with prototype. * Discussed finalizing Chapter 3 methodology. * Highlighted next meeting deadlines. * Minor debugging. | |
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| **Supervisor Recommendations**   * Discussed potential solutions and attempts to try until next deadline. * Deadline set for prototype and chapter 3 methodology. * Debugging sorted. * Will issue a small meeting in the future to discuss prototype solutions. | |
| **Date of Next Meeting** | **31st January 2022** |
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| **Meeting 11** | **Date : 31st January 2022** |
| **Issues discussed at the meeting**   * Corrections of Chapter 3 methodology. * Chapter 4 talks. * Potential updates to the prototype. * Change of repository due to errors in current one. | |
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| **Supervisor Recommendations**   * Chapter 3 minor changes in wording. * Discussed Chapter 4 methods of obtaining the results. * Repository changed as well as prototype updated. * Next meeting Chapter 3 will be closed. | |
| **Date of Next Meeting** | **14th February 2022** |
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| **Meeting 12** | **Date : 14th February 2022** |
| **Issues discussed at the meeting**   * Chapter 3 final touches in formatting wording and subtitles. * Chapter 4 planning. * Prototype final touches. * Prototype potential addons. | |
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| **Supervisor Recommendations**   * Chapter 3 finalized. * Chapter 4 will be initiated week starting 21st February. * Prototype discussed and will not add any new features. * Prototype finalized. | |
| **Date of Next Meeting** | 28th February 2022 |
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| **Meeting 13** | **Date : 28th February 2022** |
| **Issues discussed at the meeting**   * Collection of Data discussed. * Updates on Chapter 3 finalizations. * Updates on Questionnaire. * When the data will be gathered. | |
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| **Supervisor Recommendations**   * Data will be gathered by the 4th of April. * Small meeting in between to finalized chapter 3. * Mentor explained how to carry out questionnaires. * Discussed plan for the finalization of the thesis. | |
| **Date of Next Meeting** | 14th March 2022 |
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| **Meeting 14** | **Date : 14th March 2022** |
| **Issues discussed at the meeting**   * Small meeting to clear out any small details in chapter 3. * Researcher was not sure how to undertake questionnaires. * Confirmation of how many questionnaires was made. | |
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| **Supervisor Recommendations**   * Chapter 3 finalized. * Questionnaires were finalized. * Questionnaires will be collected by the researcher from this point on. | |
| **Date of Next Meeting** | 4th April 2022 |
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| **Meeting 15** | **Date : 4th April 2022** |
| **Issues discussed at the meeting**   * The questionnaires started collection and might not be finalized by this week. * What will happen once the data is collected. * What shall happen with the data. * When chapter 4 be concluded. | |
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| **Supervisor Recommendations**   * Deadline of questionnaires will be the 18th of April 2022. * Data will be collected by the end of this week, 8th April 2022. * Data shall be sorted via numbering. * IBM SPSS shall be used in order to further analyse the data. | |
| **Date of Next Meeting** | 18th April 2022 |
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| **Meeting 16** | **Date : 18th April 2022** |
| **Issues discussed at the meeting**   * IBM SPSS questions on usage. * Queries on which data analysis tools to be used. * What to write on chapter 4. * How to write chapter 4. | |
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| **Supervisor Recommendations**   * Grasped a better concept on how to use IBM SPSS. * Analysis tools were outlined and explained by the mentor to understand usage. * Mentor explained contents of what chapter 4 should include. * Mentor explained how chapter 4 contents should be written. | |
| **Date of Next Meeting** | 2nd May 2022 |
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| **Meeting 17** | **Date : 2nd May 2022** |
| **Issues discussed at the meeting** | |
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| **Supervisor Recommendations** | |
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| **Meeting 18** | **Date :** |
| **Issues discussed at the meeting** | |
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| **Supervisor Recommendations** | |
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| **Meeting 19** | **Date :** |
| **Issues discussed at the meeting** | |
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| **Supervisor Recommendations** | |
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| **Meeting 20** | **Date :** |
| **Issues discussed at the meeting** | |
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| **Supervisor Recommendations** | |
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| **Dissertation Supervision Meeting Summary Sheet** | | | | Sheet 1 of 2 |
| **Meeting No** | **Planned Meeting Date** | **Actual Meeting Date** | **Attended (Y/N)** | **Remarks (if any)** |
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| **Dissertation Supervision Meeting Summary Sheet** | | | | Sheet 2 of 2 |
| **Meeting No** | **Planned Meeting Date** | **Actual Meeting Date** | **Attended (Y/N)** | **Remarks (if any)** |
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| **Total Planned Meetings** |  |
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| **Supervisor Signature** | **Student Signature** |