Name _____ **Roll Call** _____

	PORT MORESBY INTERNATIONAL SCHOOL TECHNOLOGY DEPARTMENT	YEAR 12 – INFORMATION TECHNOLOGY SEMESTER 2, 2016

Unit Title	IT Project	**Unit Code**	13577	**Unit value**	**0.5**
Course Code	**1250**	**Weighting**	100%	**Due Date**	End of Week 10, Term 3
Task # 5	IT Project	**Duration**	10 weeks	**Total Marks**	96

This project aims to assess your knowledge and skills in the analysis, development and implementation of an IT project (can be in the form of programs, information systems or machines) that solve a specific information need of a real life client / end-user.

General Instructions

1. Use your IT exercise book as your log book or journal to record the progress of your activities from the starting stages to the end of your product development, documentation, evaluation and class presentation of your project.
2. Submit your documentation in word processed format with all pages neatly bound or stapled and with a proper cover page. The cover page should show the school's logo, assessment title, title of your project, client name, your full name, subject name and submission date.
3. Submit an electronic copy of your product and documentation into the submission folder of JMolyneux. The log book/journal will be also submitted for sighting.

Assessment Criteria

Students will be assessed on the degree to which they:

1. Evaluate and analyse problems and devise solutions that demonstrates a synthesis of knowledge, concepts and skills of the composition of systems
2. Create solutions using problem solving methodology, design techniques, tools, skills and processes with proper planning and time management
3. Present concepts accurately and coherently using appropriate terminology in a range of written and non-written formats
4. Demonstrate creativity in applying processes and techniques to familiar and unfamiliar scenarios using appropriate application software

See attached Assessment Rubrics (may vary in the Documentation section depending on the type of solution/product).

Task 1: Written Proposal (10%) Due: 22 July, 2016 (Week1, Term 3)

You are to create and submit a written proposal for your project which will be deemed by your teacher to be both suitable and at an appropriate level of difficulty. Your written proposal will have to be approved by your teacher before actual work can take place.

- The project may be in the form of a program, an information system or machines that provide a solution to a particular problem. The problem should be based on a real life situation. However, a real life situation is more recommended as it will provide you with appropriate data and information resources and an actual client or end-user that will benefit from the solution that you will create and implement.
- Note: If you are unable to find a suitable client/end-user (after an exhaustive search), please see your teacher immediately to discuss the possibility of making up your own project. The written proposal should include the following:

	Title	Details
1	**Identification of the problem**	If you consider using a real-life application, ▪ identify who is/are your client(s) or end-user (s) ▪ present an overview of the existing system and its weaknesses that gave rise to the problem(s ▪ present the problem(s) and the intended solution your client has in mind If you made up your project, ▪ identify your potential clients/end-users ▪ present an overview of your perceived existing system and possible weaknesses that gave rise to the problem, ▪ present the problem(s) and the intended solution that the client has in mind
2	**Recommended solution**	▪ Present the method of solution i.e. a program, an information system (e.g. database applications or spreadsheet-based applications ▪ Specify overview of your approach or strategies in solving the problems. ▪ Specify the various hardware and application software you intend to use in your project. For the application software, indicate the purpose of their use. For example, you decided to use a relational database management system software such as MS Access, indicate the reason for its use.
3	**Proposed Objective(s)/ Benefit of the project**	▪ Present the proposed objectives and possible benefits that your potential or actual client/end-user may derive from your recommended solution to the problem(s).
4	**Timetable of your Project**	▪ Identify the various activities that you plan to carry out in the development of your project as well as the amount of time that you think is needed for each activity. Show this using a Gantt Chart which is a graphical representation of the timeline for your project. ▪ Note that each of you will have different set of activities in your Gantt chart. Present some detailed activities as much as possible, e.g. you may include specific dates for your activities instead on weekly terms. See the example below.

Sample Gantt Chart:

Activity	Term 3									Term 4	
	1	2	3	4	5	6	7	8	9	1	2
Written Proposal											
Fact-finding											
Analysis											
Designing & Development											
Testing											
Evaluation											
Documentation											
Presentation											

Task 2: The Product (50%) Due: Sept 9, 2016 (Week 8, Term 3)

Based on our discussion & notes on systems development life cycle, proceed to develop your project applying the various phases of SDLC. The following are a few reminders to consider in the creation of your project:

	Title	Details
1	**Fact-finding**	▪ Set an interview with your client/end-user to learn about the existing system, its weaknesses and identify with your client/end-user the problems encountered with the existing system. ▪ Collect the necessary data/information required to solve your problem. This may be in the form of existing office forms relevant to the specific problem, e.g. invoice, order forms, payslips, etc. and also existing reports produced periodically, e.g. Sales Report, Daily Orders List, Payroll Summary, etc.
2	**Analysis of the project requirements**	▪ Examine the requirements of the client/user – whether the proposed product is realistic in terms of time constraints, resources and your ability to develop it. ▪ Determine the hardware and software requirements of the project. ▪ Specify the performance criteria, i.e. the features or performance aspects of the project that will allow you and your client to evaluate later its success. For example, you may include sophisticated navigation features/buttons in your client's website and evaluate later the success of the links, you may include a switchboard or menu in your client's database or spreadsheet system for its user interface, etc. These performance criteria will be part of your Beta Testing Questionnaire
3	**Design your project**	▪ Determine the design concepts and methodologies to be used for designing your product. The methodologies to use will depend on the solution for the project, e.g. database, spreadsheet, website, publications, multimedia presentation, etc. Examples of methodologies could be Data Flow diagrams (DFD) and Entity-Relationship diagrams for database systems, flowcharts, page layout templates and site map layouts for websites, storyboards for animation, etc. ▪ Should identify at **least 2 advanced techniques** to be used in the development of the project. See **Guidance for Appropriateness & Complexity of IT Product (IB base**d). For example, if your solution is a database or spreadsheet systems you may include data validation procedures in your data entry routines to guarantee the accuracy of data inputted into your system.
4	**Develop your project**	▪ You develop your project using specific application software that you have identified in your analysis and designing stages. For example, you will use MS Access to create a relational database system for your client/user, Macromedia Dreamweaver for your client's website, etc. ▪ You may need to learn some features of the software you intend to use in your project and therefore, you will have to allocate certain learning schedule in your timetable.
5	**Testing your project**	▪ Beta testing is usually done to test for technical and design flaws as well as the suitability of content. To do the beta testing, you can do the following: ▪ Choose a qualified beta tester, most probably a potential end-user. ▪ Outline the criteria for testing (this may vary for the type of project, eg. Website, database systems, spreadsheet systems, movies, etc.). These criteria may be in the form of a questionnaire that will be answered by the beta tester to describe his experience during the testing. You may design a simple hands-on simulation of the data entry module of a database or spreadsheet-based systems. Criteria for this may include ease of entry routines, error trapping facilities, basic editing routines such as adding, editing, saving or deleting a record, etc. Websites or slideshow presentations, videos, animations or desktop publications may have different criteria. ▪ The beta testers should fill in the questionnaire and sign in as proof of testing. Allow the beta testers to make comments and suggest changes or improvements to your system. ▪ The last phase of the formal testing should be done by the client/end-user who must also evaluate the solution to ensure that the product meets their information needs.

Before submitting your product, ensure that it has been fully tested technically, effective and functional. It is important that you always consult your teacher on any question, difficulty or concern about the project. Plan your project carefully. Good luck and have fun doing it.

Task 3: Documentation and Activity Journal (30%)

Due : 16 Sept 2016 (Week 9, Term 3)

You are to submit a formal documentation of your project. The documentation will be of two parts: a technical documentation and a user manual.

A. **Technical documentation**

A technical documentation **c**ontains information needed to understand and maintain the system. It should include the following:

1. Title of the project, author & date submitted
2. Name of Client/User and Nature of Business
3. Purpose or Objective(s) of the System
4. Final Timetable for the Project – revised Gantt Chart
5. Project Design

- Hardware and Software used (indicate the purpose and how the software is used)
- Design Tools vary for each student depending on the type of product or solution that was developed. Justify your design schemes and the tow (2) advanced techniques that you used in your dsUse the following design tools for your product:

Product	Recommended Design tool
Multimedia : Website	Hierarchical navigation model / site map
Multimedia : Slideshow Presentation	Outline layout
Multimedia : Video / Sound	Storyboard
Desktop Publishing	Page layout
Database	Entity relationship diagram (ERD) / Data dictionary / Relationship diagram
Spreadsheet	Workbook layout

Read this only if your product is a database or spreadsheet

- *Data Dictionary shows that files/databases structures included in the design. It should specify the file/database name, its function(s) and field information such as the field names, description, data types, and formatting properties. State also any coding scheme that may be applied to field(s).*

- Design Narrative – include a narration or explanation of the design tool components applied in your project. It should also justify the design schemes you used (colour schemes, page layout, typefaces used, other design objects). State and explain at least two (2) advanced techniques you applied, how you applied them and the reasons.

6. Testing and implementation - include the following in your report:
   a) The name of the persons who are involved in the beta testing (at least one) and state why they are qualified to do this formal testing. All beta testers should be more than 18 years old.
   b) A sample of the testing documentation such as the questionnaire given to the beta tester(s) that shows their comments. This questionnaire should be based on the
   c) Explain the modifications suggested by the beta testers and show before and after screenshots to assist in explaining how the change has improved the product.

7. Assessment of the Social Significance of the product
   - You must identify and explain the observed social impact and benefits that emerged from the development or use of the product by your client/end-user. Include also any projected social impact that may arise from your own perspective of how this product could be used in the future in a wider setting. For example, you may identify situations in the future where the project you created may be used in another context.

8. Samples of Data input forms and output reports generated from the system.

B. **User Manual**

A user manual is a guide for potential or actual users on how to use the system. This may include the following:

1. The hardware and software requirements
2. Procedures to install the system (solution)
3. Data entry and file maintenance procedures (How to enter, edit, save, and delete records)
4. Data Processing and Output procedures (how to generate softcopies or hardcopies of data)
5. Troubleshooting guide (How to cope with any technical problems that may arise from the product's use)
   Support your description and explanation of processes with screenshots that show how to do some of the procedure. Your user guide should cover all aspects of the solution from data input to data output. This documentation should be presented in a neat, well-formatted layout of your choice.

C. Activity Log book / Journal

The Logbook is a chronological record of the entire process you used throughout the development of the product. Maintaining it is mandatory. It is primarily intended as a means of improving skills of organisation, documenting the process of development and as an aid to problem solving for the student.

- It should contain regular, dated entries from analysing, planning, testing, implementing and evaluating the process and the product.
- It may also include references for information, sketches and designs, screenshots, evaluative comments, crossings out, subject statements and other appropriate entries.
- It will document your actions and thoughts throughout the development process. It is normal for the logbook to be handwritten.
- This logbook will be checked weekly by your teacher to monitor your progress.

Task 4: Class Presentation (10%) Due: Week 1, Term 4

You will be required to present and demonstrate your product in class with duration from 10-15 minutes. Your presentation structure should include the following:

1. Title of project
2. The client/end-user
3. The Problem of the client/end-user's current system
4. Your recommended solution
5. Important features of the Product
6. Result of Evaluation of Client

Better presentation are usually aided by a well-designed slideshow.

Be focused towards your goals and manage your time well.

"Failing to plan is planning to fail."

Unit Grade Descriptors

	A	B	C	D	E
Knowledge, understanding, application, analysis & evaluation	• evaluates and analyses complex problems with insight and devises innovative solutions • synthesises knowledge of the composition of a system/ application displaying a sophisticated understanding of the interconnected nature of its components	• analyses and explains complex problems with insight and devises creative and effective solutions • demonstrates knowledge of the composition of a system or application in a comprehensive and clear manner	• explains and describes problems and devises effective solutions • demonstrates knowledge of a system or application in a satisfactory manner	• explains and describes problems and devises effective solutions • demonstrates knowledge of a system or application in a satisfactory manner	• identifies problems and presents minimal understanding on developing a solution to a problem • demonstrates minimal knowledge of the composition or application
Planning, Designing, creating & implementing	• creates sophisticated and proficient solutions using highly effective problem solving methodology, design techniques, tools, skills and processes • demonstrates refined skills in planning, time management and designing, satisfying all requirements to a very high level	• creates proficient solutions using effective problem solving methodology, design techniques, tools, skills and processes • demonstrates competent skills in planning, time management and designing, satisfying all requirements to a high level	• creates effective solutions using adequate problem solving methodology, design techniques, tools, skills and processes • demonstrates satisfactory skills in planning, time management and designing, satisfying many requirements to a satisfactory level	• creates basic solutions to problems, inconsistency uses methodology, techniques, tools, skills and processes • demonstrates basic skills in planning, time management and designing, satisfying few requirements	• demonstrates minimal application of methodology, techniques, tools, skills and processes to develop solutions to problems • demonstrates minimal skills in planning, time management and designing, satisfying few requirements
Communication, Interpersonal skills	• presents highly complex concepts accurately and coherently using a wide range of written and non-written formats • communicates with a strong sense of purpose and audience • demonstrates through awareness of ethical use of information using accepted referencing and uses appropriate terminology accurately and with confidence • demonstrates highly effective interpersonal skills working productively in both team and group situations with a thorough understanding of individual responsibilities and the rights of others	• presents complex concepts accurately and coherently using a range of written and non-written formats • communicates proficiently with a sense of purpose and audience • demonstrates a broad awareness of ethical use of information using accepted referencing and uses terminology accurately • demonstrates mostly effective interpersonal skills working in team and group situations with a proficient understanding of individual responsibilities and the rights of others	• presents concepts with some accuracy and coherence using written and non-written formats • communicates satisfactorily with a sense of purpose and audience • demonstrates general awareness of ethical use of information mostly using accepted referencing and accurate terminology • demonstrates some effective interpersonal skills working in team and group situations with an understanding of individual responsibilities and the rights of others	• presents basic concepts with some accuracy using written and non-written formats • communicates with some sense of purpose and audience • demonstrates some awareness of ethical use of information and referencing and some accurate use of terminology • demonstrates basic interpersonal skills working in team and group situations with some understanding of individual responsibilities and the rights of others	• presents concepts using a limited range of written and non-written formats • demonstrates basic level of communication with limited sense of purpose or audience • demonstrates little or no awareness of ethical use of information, referencing or accurate use of terminology • demonstrates some basic interpersonal skills working in team and group situations with minimal understanding of individual responsibilities and the rights of others.
Flexible, adaptive, critical and creative thinking	• demonstrates a thorough awareness of the impact of social, ethical, and legal issues • demonstrates creativity and agility in applying processes and techniques to familiar and unfamiliar scenarios	• demonstrates a broad awareness of the impact of social, ethical, and legal issues • demonstrates agility and confidence in applying processes and techniques to familiar and unfamiliar scenarios	• demonstrates a general awareness of the impact of social, • demonstrates appropriate processes and techniques to familiar and unfamiliar scenarios ethical, and legal issues	• demonstrates a basic awareness of the impact of social, ethical, and legal issues • demonstrates limited application of processes and techniques to familiar scenarios	• demonstrates little or no awareness of the impact of social, ethical, and legal issues • demonstrates limited application of processes and techniques to scenarios

Late Submission of Work:

Work submitted late **will** be penalised at the rate of 5% (of possible marks) per calendar day late (including weekends and public holidays) to a maximum of 25%, after which the task will be deemed to be not done and the student will be warned of a possible V grade procedure.
Requests for an extension must be made in advance (**not** on the due date) in writing and a new due date agreed with the class teacher.

Non-Submission of Work: When students fail to hand in work they are immediately given warning of a possible V grade. Where students fail to hand in assessment items in T units, they will be awarded a notional zero for that assessment item. The notional zero will be a score, which lies between 0.1 of a standard deviation below the lowest genuine score for that assessment item and zero. **In the PNG system a student who fails to complete an assessment item for a genuine reason is awarded a score of two below the lowest genuine score for that item.** Since this will normally fit in with the bounds for a notional zero this is what will normally be used. **If the lowest genuine score for an assessment item is two or below then the student should be awarded zero.**

Tests: If absence from a test is unavoidable then compensation should be sought from the teacher. This will be in the form of an estimate mark given at the end of the semester based on marks obtained over the whole assessment, make up test or sitting the same test; the choice will be entirely up to the class teacher. Any claim for compensation must be substantiated by a letter from a parent/guardian or a doctor's certificate.

Attendance: Students are expected to attend all classes. Under ACT regulations students missing 10% of classes in a semester (ie 10 days) can be awarded a V grade. Under the PNG system a student missing the equivalent of 30 days of classes in a subject in a year for any reason is not eligible to receive a school certificate (this applies to Grade 10 & 12).

Plagiarism is a serious offence and it is your responsibility as a student to ensure that you do not commit this breach of discipline whether intentionally or otherwise. Students may be required to substantiate or verify the authenticity or integrity of completed assignments, reports, etc. You are therefore advised to keep all material used in preparing your work such as notes, references, photocopied material and drafts until the end of semester.

Cheating/Plagiarism: Students found to have cheated or plagiarised on an assessment item will be given no mark for the assessment item. This may lead to a V grade. Students have the right to appeal to the Head of Department and if dissatisfied with that decision to the Academic Committee through the Deputy.

Minimum requirements for assessment: A V grade is awarded when a student does not satisfy the assessment requirements of a unit. You will be awarded a V grade if more than 30% of assessable work is not completed and/or if you miss more than 10% of the scheduled classes per semester without satisfactory explanation. However the Principal has the right to exercise discretion in the award of the grade or score in special circumstances where satisfactory documentation is supplied.

V Grades: If a V Grade is awarded then a student is deemed to have voided the unit i.e. not completed the unit. This means that there will be no score for that unit and it will not count towards the total of units for the Year 12 Certificate (a minimum of 17 units required) or the Tertiary Entrance (a minimum of 20 units required).

Right to Appeal: If you are dissatisfied with the accuracy of your unit assessment you should first discuss this with your teacher and then the Head of Department if the issue is not resolved with your teacher. If you are still not satisfied you may make a formal appeal to the school through the Deputy Academic. You may also appeal to the ACT BSSS in Canberra if after having been through the school appeal process you wish to appeal against the school procedures by which the appeal decision was reached.

Moderation: Throughout the semester, moderation in the form of common marking schemes, cross marking and joint marking occurs to ensure comparability of standards within individual assessment items.

Unit Scores: At the end of each semester ACT Grade 11 & 12 scores are standardised and mapped to historical parameters. These are then sent to the ACT BSSS and then made available to the students.

Course Score Generation: ACT BSSS policy requires that for each course (subject) the top 80% of unit scores be used to calculate the final course (subject) score at the end of Grade 12. (For example this means that if you have 4 standard units, we use the scores of the best 3 units and 0.2 of the worst).