

Assignment 3 Our IT Project - Group 37

COSC1078 – Introduction to Information Technology

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# Team profile

## Team name

Group 37

## Personal Information

**Amy - s3718266**   
I am Australian but love to travel and one of my favorite things to do is to go snowboarding. Since a young age I've wanted to study in the STEM fields. Throughout my secondary education, my passion for science and the prospect of learning the foundations of the future have inspired me to take my education further. During year 12 I studied computing: informatics. I would also say I have a keen interest in design and creating: applications, websites and artworks. In the future I would like to work with both the skills of logic and creativity. I do not have any previous IT job experience.

**Esther - s3718706**  
I was born in Australia to Vietnamese immigrant parents. My hobbies include making watercolour art and watching YouTube videos of derpy animals. I studied Computing Informatics for VCE. I'm interested in the UI/UX design and research industry. I have no IT related job experiences.

**Jonathan - s3661949**  
I'm Australian, but my dad was born in Germany and my mum in New Zealand. I play basketball, video games and read. I'm interested in System Administration, Data Analytics and Software Development. I worked in the IT department at McKinnon Secondary College as an Intern in 2017. I also studied some IT subjects at secondary school.

**James - s3724958**   
I'm Australian, my mother is Filipino, and my father is English. My hobbies are health, fitness and drinking wine. I'm interested in cryptocurrency, data analysis & mining, cloud computing and app / web design. I've had exposure to multiple fields of IT through previous studies and freelance work, ranging from programming, databases, web development and web design.

## Group processes

During and throughout assignment 2 our group has been very good at communicating. As a whole each of us will contact one another on messenger to ask about points for the assignment. For us, this was a great way to communicate easily and we found that we could get most of our issues resolved through the group chat or direct messages. Moving forward to assignment 3 our group hopes to continue this communication. Additionally, we would like to meet outside of tutorial times to further discuss our assignment and presentation. The only thing we could improve on would be to set goals and understand the work when we are together so that less communication is made discussing the specifications of the assignment. Aside from that we believe we work very well together.

## Career plans

Amy’s ideal job as a SCRUM master is centered around dynamic group management. Jonathans ideal job of DevOps Engineer includes working with systems administration and software development. Esther’s ideal job as a user experience researcher requires researching user attitudes and behaviors on products and systems. And finally, James’s ideal job as a cloud consultant involves working in different parts of the IT Industry ranging from cloud solutions, big data, analytics, infrastructure, design / migration, development life cycles and machine learning.

Considering these different career paths, all our ideal jobs have a need for communication and crossover between a user or client to information that can be transferred to be useful.

Some differences between these jobs include the amount of back end work needed. Where Jonathans job clearly creates a solution to a problem. Esther’s job requires more research to uncover potential problems to be solved. This is also in comparison to Amy’s ideal job where understanding of backend work is required, however is more centered around communicating and delegation. Moreover, James’s ideal job is like Amy’s as a range of IT knowledge is required, however the focus is on the interaction between him and the client.

# Tools

Group Website:[team37.s3-website-ap-southeast-2.amazonaws.com](http://team37.s3-website-ap-southeast-2.amazonaws.com)

Git Repository:github.com/S3661949/Team-37

# Project description overview

## Topic

The project will create extremely usable reporting software. This aims to remove frustrations felt by all user groups of a school when accessing and using administration software.

By removing these frustrations, we aim to allow teachers to focus instead upon teaching content and helping students, rather than drag down performance with needlessly complex processes.

## Motivation

Removing hinderances found in software that is currently available will also allow students to easily view results and feedback, and instead focus energy on learning the material, while also allowing parents to not feel out of the loop when it comes to their child's progress.

We've decided to undertake this project due to frustrations felt by our own team members during school and talking to current teachers who have to fill out these results and the feedback that comes along with it.

## Landscape

The completion of this project would show future employers that we are able to identify problems and bottlenecks within a workflow, and improve upon the current solution, highlighting our problem-solving skills as well as our ability to collaborate and work with multiple people to achieve a positive outcome.

There aren't many alternatives currently available. Two major competitors are Compass Education, and Tassweb. What sets our product apart from these two, is our investment into usability and design. By designing our product to increase workflow and satisfaction in the user base, this product should perform in the market.

# Detailed description

## Aims

The aim of the project is to create a reporting system that secondary and primary schools can use for staff members, students and parents. The reporting system should be clear, accurate and quick to use.

There are 2 goals for the project:

1. Creating the database, linking the database to CASES21 and presenting the information in a clear and concise way.
2. Creating the 3 separate views needed.

The creation of the database is relatively straightforward, and the clear priority for the project. Without the database there is no deliverable product, so our attention will initially be focused on this.

The separate views are where we will be able to stand out from other solutions. These views need to be extremely personalized for teachers, meaning tools like quick marking, easy viewing of whole classes, and filtering for different assessment tasks are important here. For non-staff, having secure data and only displaying the relevant data is the priority.

## Plans and Progress

The main premise of Navigation Reporting is making admin software for secondary and primary schools that removes the frustration that different users feel when trying to follow bureaucratic processes.

This ranges from physical permission slips being lost, or only being able to hand in slips on weekends or struggling to pay school fees due to poorly laid out UI, all the way to taking hours and hours to enter test scores that have already been decided upon and entering feedback that has already been given.

We fix these problems by investing a lot of effort and time into improving the user experience.

From a teacher’s perspective, we condense the data for each class on to a single page. This allows the staff member to view the entire classes assessment task scores or edit the information quickly and easily.

The student and parent view is about speed. When they open up the page, they want to easily navigate to the class and view the particular assessment as soon as possible. This is done by moving all classes the student takes into different tabs and including all assessment scores on the one page. They are then able to click on these scores to view feedback. The parent view simply has the added click to choose which child they wish to view in the event of multiple enrolments.

Initially, Navigation Reporting was an idea for school admin software in a single location. This would have included features like financial reporting, an announcements / news feed module and a time tabling module. However, upon discussing the massive scope of the project, we instead decided to instead narrow it down to just the reporting module, as completion of the initial scope was not feasible in the time given for the project.

After this discussion, we began work on designing some paper prototypes for the reporting modules main page. These paper prototypes included the parent, student and staff member views.

After the creation of these mockups, we then moved on to working on the sales pitch and presentation.

However, after the feedback from the presentation, we would need to work on improving or maybe redoing the sales pitch.

From this point, we’d need to continue work on prototyping, creating some high-fidelity mockups, changing features based on feedback from interviewing some current users of other applications.

From there, we’d create a working prototype, which would again be adjusted base on collecting user data via surveys and some focus groups, while also consulting with some IT Managers in schools and Specialist Technicians.

The next step for the team would be needing to work on creating the database and then syncing it to CASES21 data.

Due to the new privacy policy laws that have been created, we’d also need to consult with some security professionals to create safe and secure data, as some data that is stored could be considered sensitive.

Finally, after all these details had been mapped out, we’d iron out any final flaws and release a live version.

The next steps following the deployment of our application, after creating a stable release that is running smoothly, would be to begin expanding into elements of the original project idea that were left out of scope due to time constraints. This would be done alongside expanding the marketing team to sell our solution to expand upon our sales and hopefully improve the satisfaction in as many schools as possible.

## Roles

The roles are not clearly defined as “lead developer”, “technical designer” or “user interface designer” within this group. The reason as to why there are no designated roles involved in this project is because all members are flexible workers who like to choose which parts of the project they would like to work on. This allows group members to work on areas that they are knowledgeable in and improves the efficiency of the assignment. Although there are no designated job roles, there is a group leader who oversees the group’s progress. The leader is the person who had the project idea, which would be reasonable as they would have the best understanding of what their project should be. As the project is about creating a good education reporting program, the rest of the group builds upon their ideas and works on tasks based on the project. The leader must communicate to the group about their project thoroughly to ensure that all members are aware of how tasks and requirements must be answered in relation to the project. A KANBAN board is used to organize each member’s workload which makes it easy to read each member’s progress. Each group member is designated a section of the requirements to complete. Each member has a “card” which showed the progress of their workload or number of tasks to complete. When complete, the member can move the task over the “complete card” to let other members know no longer needs to be worked on.

## Scope and Limits

Although the project that was initially proposed is school administration software that would eliminate the need for staff members, parents and students of secondary and primary schools to use multiple programs or applications, developing this application is not feasible in the time frame. Instead, we will only be producing the reporting module. This will include 3 distinct versions depending upon the user’s access level. The "views" that will be developed are a staff members, parents and students, and the necessary tools that would come along with those separate views. For example, a staff member would need to enter a student's marks for an assessment task. The scope of this project will not include the financing module, which would include features such as payment of school fees by parents or creating of purchase orders by staff members. We will also not initially include other modules such as the timetabling module, or an announcement module.

## Tools and Tech

For the front end of development revolving around design on the online portal, tools such as balsamiq and figma will be used. The coding itself (front and back end) will be done in Atom, using languages such as HTML, CSS, Javascript, PHP and MySQL. Hosting will be done on AWS to help with scalability in the future.

## Testing

Testing will occur over multiple phases, the first being with the design of the application itself. This will involve ensuring the interface engages, enables and empowers its users through the design. The second phase will be testing the application itself, checking for errors and ensuring the quality of the features and functionality.

Third phase will be testing it in a school, slowly introducing users starting from the admin and teachers and involving the students and parents in a later stage. Throughout this process it will be vital to seek feedback on all aspects to see what potential changes can be made.

We will know we have succeeded once the application is used in a school and all features will have worked as intended. Another, criteria will be receiving mostly positive feedback from all user groups and having minimal errors across the board. From here it will be a matter of implementing the application into other schools and repeating from the third phase.

## Timeframe

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| Week 1  (week 9) | (30 April) | 1 May | 2 | 3 | 4 | 5 | 6 |
|  | - Group meets  - Create new folder in git  - Group: moved the files from assignment 2, to relevant sections in team profile: team name and personal information  - group website and git set up  - meant to have group consultation with James H but has been pushed back to the 8th of may  - Group: decide our aim for the project | - Group: Worked on group processes from assignment 2 and career paths  - Amy: created online timeline to track group progress (used Monday.com) began adding elements  - Jonathan: Write up aim for project | - Group: Worked on group processes from assignment 2 and career paths  - Amy: finished adding elements and time frames to each section of the assignment  - Jonathan: Write up aim for project | - Group: Worked on group processes from assignment 2 and career paths  - Jonathan: work on description overview: motivation | - Group: Worked on career paths  - Esther: write an explanation of the roles in our group  - Jonathan: work on description overview: motivation | - Group: Worked on career paths  - Jonathan: work on/finish description overview: motivation and topic |
| Week 2  (week 10) | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| - Group: Finished career paths  - Esther: write an explanation of the roles in our group  - Jonathan: work on/finish description overview: topic and location | - group meets  - group consultation with James H:  + shortened the scope of our application, to focus on a student parent teacher portal to conduct easier online marking  + strong focus on the usability for teachers to add update and edit marks and make it easy for parents to view and understand their child’s grade  + approved to move forward with readjusted scope  - allocated workloads  - identified sections the group was confused about or not sure what to do with | - Amy: compare timeline with actual group progress and update of check what has changed now that the scope has changed  - Esther: finish the written explanation of the roles in our group  - Jonathan: work on/finish description overview: location  - James: begin deciding what tools and tech will be required for the project  - Jonathan: Write up aim for project | - group talks to discuss the risks and scope of the project including what our goal for the application may be  - James: decide what tools and tech will be required for the project  - Jonathan: finish writing up the aim for project  - Jonathan: outline the scope and limits as talked about with James H | - James: decide what tools and tech will be required for the project  - Amy: write about the group process from assignment 2  - Jonathan: write up the scope and limits | - James: decide what tools and tech will be required for the project  - Amy: write about the group process from assignment 2 | - Amy: write about the group process from assignment 2  - Jonathan: write up the scope and limits |
| Week 3  (week 11) | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| - Amy: notification from Monday.com our account has been paused until bank details are added, now the timeline must be moved to a more suitable location that can be easily accessed  - Jonathan: write up the scope and limits | - group meets  - discussed how far we have come with our individual parts  - Esther: began outlining the risks in the project  - finalise scope and goals by writing them down  - discuss plans for presentation to potential  - Group: started work on the wireframes for the mock-up of the user interface | - Group: work on wireframes  - Jonathan: work on the progress and planning for the report  - Amy: recreate the timeline in a table in documents | - Group: finish off wireframes and get group approval to start on the low fidelity mock-ups  - James: work on low fidelity mock-ups  - Jonathan: work on the progress and planning for the report  - Amy: recreate the timeline in a table in documents | - James: work on low fidelity mock-ups  - Esther: work on outlining the risks in the project  - Amy: finish timeline | - James: work on low fidelity mock-ups  - Esther: work on outlining the risks in the project  - James: work on group processes and communications | - James: finish low fidelity mock-ups and present them to the group for approval  - make minor adjustments |
| Week 4  (week 12) | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| - Esther: work on outlining the risks in the project  - Jonathan: work on the progress and planning for the report  - James: work on group processes and communications | - group meets  - Group: write speeches for the investors pitch  - Amy: create an Entity Relationship Diagram to include in presentation  - Group: create a PowerPoint presentation for the investors pitch  - James: decide how the product will be tested | - Amy: create an Entity Relationship Diagram to include in presentation  - Group: work on PowerPoint presentation for the investors pitch  - James: decide how the product will be tested | - Amy: create an Entity Relationship Diagram to include in presentation  - Group: work on PowerPoint presentation for the investors pitch  - Jonathan: finish the progress and planning for the report | - James: decide how the product will be tested | - James: write about skills and jobs for report  - Jonathan: finish the scope and limits | - Amy: adjust timeline make small changes from what we have done  - James: write about skills and jobs for report |
| Week 5  (week 13) | 28 | 29 | 30 | 31 | 1 June | 2 | 3 |
| - group meets  - prepare pitch to potential investors  - Group: finish the PowerPoint presentation for the investors pitch | - group meets  - group pitch to potential investors with speeches and PowerPoint presentation | - investors reply, however they need more information on the project, group needs to rework our sales pitch | - Group: work on new sales pitch  - James: write about skills and jobs for report | - Group: work on new sales pitch  - Amy: start formatting the report | - Group: work on new sales pitch  - James: finish -- decide how the product will be tested | - James: write about skills and jobs for report |
| Week 6  (week 14) | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| - James: work on group processes and communications | - James: finish work on group processes and communications  - Group: write up short reflection of project | - Amy: finish the timeline up to date with what has been done  - Group: write up short reflection of project | - Group: work on new sales pitch  - Group: write up short reflection of project | - Amy: format the report for submission  - Group: write up short reflection of project | - Amy: format the report for submission  - Group: do the SparkPLUS feedback | - report due  - Amy: format the report for submission  - Group: do the SparkPLUS feedback |
| Week 7 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| - second sales pitch with more information and a clearer and more polished presentation  - start work on high-fidelity mock-ups  - begin designing the logos and template of the website | - register the company name with ABN  - continue working on the high-fidelity mock-ups  - work on logo and colour scheme  - the investors are ready to commit to the project and want to meet regulary to keep informed | - pick colour scheme  - continue working on the high-fidelity mock-ups  - work on logo | - continue working on the high-fidelity mock-ups  - work on logo | - continue working on the high-fidelity mock-ups  - work on logo | - continue working on the high-fidelity mock-ups | - continue working on the high-fidelity mock-ups |
| Week 8 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| - continue working on the high-fidelity mock-ups  - finish off logo and review with group | - continue working on the high-fidelity mock-ups  - fix up logo | - continue working on the high-fidelity mock-ups  - fix up logo | - review high fidelity mock-ups with group | - fix high-fidelity mock-ups | - fix high-fidelity mock-ups |  |
| Week 9 | 25 | 26 | 27 | 28 | 29 | 30 | 1 July |
| - fix high-fidelity mock-ups  - begin work on a mock up database locally on a work computer with a program such as Access to set out what the inside of the database will look like and to test how it will work all together | - show the investor the progress with the logo and the high-fidelity mock-ups  - work on mock up database adding the tables for the studentInfo, teacherInfo, parentLink, class and studentMark | - begin to create the website from the mock-ups  - work on mock up database adding the tables for the studentInfo, teacherInfo, parentLink, class and studentMark | - work on the website  - work on mock up database adding the queries - such as having the teacher input a mark in a percentage (ie 5/7) from which set brackets can determine what letter grade the student will receive | - work on the website  - work on mock up database adding the quires | - work on mock up database adding the quires | - work on the website |
| Week 10 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| - work on the website  - work on mock up database adding the quires | - work on the website  - work on mock up database adding the quires  - create the reports from the quires  - meeting with privacy consultants to make sure we implement the correct data protection | - work on the website  - work on mock up database adding the quires  - create the reports from the quires | - work on the website  - work on mock up database to create the reports from the quires | - work on the website  - work on mock up database now adding the forms (don’t have to look like the high-fidelity mock-ups, just have to have the right input boxes) | - work on the website | - work on the website |
| Week 11 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| - work on the website  - work on mock up database now adding the forms | - work on the website  - work on mock up database now adding the forms | - work on the website  - use dummy data to test if the data can cope with errors in validation and check that all queries are creating the correct reports with the information needed | - work on the website  - test the database with mock data | - work on the website  - test the database with mock data |  | - test the database with mock data |
| Week 12 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| - work on the website  - fix the issues with the mock-up database | - work on the website  - fix the issues with the mock-up database | - finish the website  - move to create an online database using amazon web services | - move to create an online database | - work on creating the online database |  |  |
| Week 13 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| - work on creating the online database  - connect website to data base | - work on creating the online database  - connect website to data base | - work on the online database  - connect website to data base | - work on the online database | - work on the online database | - work on the online database |  |
| Week 14 | 30 | 31 | 1 August | 2 | 3 | 4 | 5 |
| - work on creating the online database | - test the site to check that it works injunction with the database and produces the correct results | - test the site to check that it works injunction with the database and produces the correct results | - test the site to check that it works injunction with the database and produces the correct results | - test the site to check that it works injunction with the database and produces the correct results |  |  |
| Week 15 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| - test the site to check that it works injunction with the database and produces the correct results | - fix errors in the database and or website | - fix errors in the database and or website | - fix errors in the database and or website | - test the database and website with dummy data |  | - test the database and website with dummy data |
| Week 16 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| - test the database and website with dummy data | - test the database and website with dummy data  - fix minor errors in the software | - implement within the school, with the use of a key punch operator to convert the paper documentation to digital | - implement within the school, with the use of a key punch operator to convert the paper documentation to digital | - implement within the school  - release within the school sending an alert to all students and parents to update and save their details | - release within the school sending an alert to all students and parents to update and save their details | - release within the school sending an alert to all students and parents to update and save their details  - checking that every student has updated and saved the changes |

## Risks

**Project development risks**

ATOM: The software can crash and any unsaved code will be lost which becomes time consuming to rewrite the code. GITHUB: Can be hard for beginners to get used to which may reduce the efficiency of work, frustration when members need to put in files and allow several members to update files. Files can only be updates once at a time, members cannot work on a file simultaneously. If files are to be updated, they must be named the same as the pre-uploaded file or it’ll be uploaded as a separate file. Some members were new to using Github and found it a frustrating experience when learning to use Github. Database (MS Access or may be hosted using AWS): Mostly due to human errors where relationship tables may be incorrectly linked which can cause problems with the functionality of the database. Also putting in the wrong datatype in table fields that do not match their corresponding counterpart would also create errors in the database will not allow it to work.

**Risks of the project itself**

The school which withholds the information is responsible for the client’s data. The privacy of information of the client (guardians & students who will use the system) which includes student academic & health records, parental access (passwords and usernames) should be protected and secure under the privacy act 1988. There may be a breach of trust between organization(school) and client (students & guardians). If the information is leaked or misused by the school (using student information for anything aside from its primary focus) the school could face legal challenges. Databases and servers may be hacked, experience breakdowns or lose data. This would take a long time to recover but can be prevented with a suitable DDRP (backup plan).

## Group processes and Communication

For this assessment we’ve laid out some clear guidelines and expectations for communication amongst the group. Most of our organizing and aims for the week ahead are discussed during our weekly tutorials, we are also meeting once a fortnight outside of tutorial times to collaborate further and help each other on our individual roles and ensuring we’re all on the same page. All communication outside of tutorial and meeting times are in the dedicated group chat on Facebook where all members are expected to check frequently.

## Skills and Jobs

The technical skills required for completing the project involve HTML, CSS, Javascript, PHP, MySQL and experience with CASES21. Other skills will involve teamwork, project management and QA. Dividing these into four roles / positions that could be hired for the completion of the application would see the following:

* Front end developer
* Back end developer
* Project Manager
* QA Analyst

The front and back end developers will have a bit of overlap as they will need to work closely together to ensure the application works as intended. The project manager will ensure the schedule and scope of the project and control communications within the team and to all stakeholders. The QA analyst will test the product to ensure the highest quality across all the features and specifications are met.

# Group Reflection

**Amy:**

For this assignment I believe we got a little lost in the beginning, however, after our group consultation with James H we were well on the way. I think we all worked well together, over the two assignments we have become fast and efficient in completing our tasks. I felt that I could have had better time management and the issue with Monday.com kicking us off was annoying but it all turned out and I think we have produced a well-rounded assignment.

**James:**

The group has worked together a lot better for this assessment than the last one. Having a set structure has really benefited everybody's productivity. Improvement could be seen in terms of preparation, potentially collaborating on more ideas and encouraging each other to contribute more. Definitely a great improvement through from everybody which was great to see.

**Jonathan:**

Having the entire group together at the beginning of this assignment, on top of having some prior experience because of last assignment really allowed us to work well together. We improved upon our preparation together, and the growth in dynamic between team members was definitely noticeable. The team definitely improved in this assignment.

**Esther**

Our group communication skills have improved since the last assignment which allowed us to work better together. There was an overall clearer view and understanding of our team members as well as the tasks needed to complete this assignment. This enhanced collaboration enabled our team to be more productive and prepared with our work.

**Group:**

As a group we can all say we are proud of our efforts. We have improved quite a bit from the last assignment with teamwork and communication, which over all has really helped time management. There is still room for all of us to improve and work on our skills, especially in communication. We did have some issues in understanding what was needed from us and at times it became confusing, however we managed to overcome this with clarifying anything we didn’t know within the group so that each person had a clear understanding of what was required. The way we set up the structure of the assignment, electing not to designate roles and instead assigning section of the report, made it much easer to complete the work set out for us and we believe has created a well-polished assignment.