Initial Plan: System Development For Placement Administration (Pre-Placement)

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Module: One Semester Individual Project
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Project Description:

Due to the rising number of students taking placement opportunities between their second and third years, the school's placement team is faced with an increasing workload that current tools and procedures are unable to effectively handle. Therefore a dedicated, technological solution is required to ease this burden and support the placement team in carrying out their tasks. The desired application can be likened to how PATS supports both staff and students during Final Year Projects.

It has been concluded that it would be extremely difficult for a single project to effectively support the entire placement process in the time provided, so the work involved have been divided roughly between that relating to the tasks carried out before and after a student's placement would begin. The current project will focus exclusively on the former half, with the aim of implementing a new system that eases the administrative load created by students prior to the beginning of their placements. Even so, due to the existence of a "grey area" between the two halves, collaboration with the second project is likely to be required in order to provide a unified approach and support administrative tasks that do not fit neatly on one side or the other.

The main focus of this project will be providing a platform for users to easily store, manage and access student documents, as well as a number of tools for placement staff to better manage students and events. While the primary goal is to support the placement team's duties, if time permits effort will be spent improving the experience for students as well. All of this will be achieved using a web application hosted by the University to ensure that staff can easily access it from any location.

Due to time constraints and the ongoing nature of the work it supports, documentation will also be required to support ongoing maintenance and the implementation of new/unfinished features after the end of the 12-week project period. For the same reason, factors that affect the maintainability of the application such as code quality will be an important consideration throughout the implementation.

Project Aims:

The system must (Critical):

- Support several kinds of accounts, with varying levels of access and permissions (i.e. Student/Supervisor/Admin)
- Support recording of information and documentation at least equivalent to the current set of forms used by the placement team, either through uploading the existing documents or incorporating them into the system directly.
- Allow authorised users to upload existing Placement documents to the system, either individually or in bulk.
- Allow authorised users to access said documents from the system.
- Allow authorised users to upload CVs, linked to Student accounts.

- Allow authorised users to download and export documents/data, in both normal and CSV format.

The system should (Medium Priority):

- Allow the placement team to post upcoming events for students to see.
- Allow students to register interest in upcoming events, so that staff can estimate attendance numbers.
- Allow staff to keep a record of what events students have actually attended.
- Provide a space for staff to record notes about a student.
- Integrate well with the Post-Placement Project's finished product.

The system may (Low Priority):

- Flag outlying students (i.e. those who attend < X% of events).
- Store a handbook/additional information useful to students and staff.
- Support analysis of stored data (i.e. attendance figures vs successfully secured placements).
- Provide additional alert features (i.e. texting).

Ethical Considerations

The final product will likely require the storage of private student/staff data. As such steps must be taken to ensure that the project complies with all relevant data protection laws and it will require ethical approval.

There are currently no plans to store data that is not already kept in some form by the Placement team so no further assessment should be required. Though real data is preferable, fictional accounts and data can be used as a substitute for real sensitive data during development and testing.

No collaboration with another school within the University will be required during this project.

Participation will be required from at least one member of the placement team to ensure that the finished project meets the requirements and expectations given.

Work Plan:

Design	**Week 1 (27/01/20 – 02/02/20)**	-Initial Meetings with Supervisor & Placement Team representative to establish requirements. -Initial meeting with student working on Post-Start Project to discuss where collaboration needs to occur. -Request secured server for implementation phase. -Research and investigation of frameworks/languages/libraries to assess most suited to the project (Suggestions include Laravel, MongoDB, MySQL). -Deliver Initial Report.
	Week 2 (03/02/20 – 9/02/20)	-Research best practice for UI design. -Create UI sketches. -Continue research and investigation from Week 1 -Begin drafting Final Report, completing introduction and determining overall structure. *Note: Due to absence I will be unavailable for meetings*
	Week 3 (10/02/20 – 16/02/20)	-Meeting with Supervisor/Placement Team Rep at end of week to discuss design & requirements. Revise as needed. -Write up Use Cases. -If necessary, create fake student/staff/document instances for testing. -Begin implementing UI.
Implementation	**Week 4 (17/02/20 – 23/02/20)**	-Finish implementing UI. -Write up Test Cases. -Begin implementing critical backend features (including Unit Tests).
	Week 5 (24/02/20 – 01/03/20	-Continue implementing critical features.

	Week 6 (02/03/20 – 08/03/20)	-Continue implementing critical features.
	Week 7 (09/03/20 – 15/03/20)	-Finish implementing critical backend features. -Begin implementing medium priority features.
	Week 8 (16/03/20 – 22/03/20)	-Finish implementing medium priority features. -Implement low priority features -Collaborate with Post-Placement Project to ensure both conform with each other for shared areas of interest. -Write up documentation/comments for future maintenance and implementing any unfinished non-critical features.
Testing	**Week 9 (23/03/20 – 29/03/20)**	-Internal Acceptance Testing carried out by developer. -User Acceptance testing carried out by Placement Team representative (ensure booked in advance). -Supervisor meeting to discuss state of the project.
	Easter Break	
	Week 10 (20/04/20 – 26/04/20)	-Revise product in response to feedback from testing, prioritising issues related to critical functionality. -Begin drafting remainder of final report.
Review	**Week 11 (27/04/20 – 03/05/20)**	-Supervisor meeting to discuss any concerns about the final report. -Finish and deliver final report.
	Week 12 (04/05/20 – 10/05/20)	-No work planned. This week should be considered slack time set aside for recovery and/or last-minute changes brought up in testing.

Risk Analysis:

Risk	Impact on Project	Likelihood:	Controls
Cannot implement all desired functionality in the time-frame of the project.	Low	Very Likely	Requirements prioritised to ensure critical functionality has most slack time, and should be complete by deadline. Documentation will be created for unfinished functionality to support ongoing development after the deadline. Maintainability should be considered when implementing
User testing reveals critical issues in the implementation	High	Unlikely	Design & requirements discussed with Supervisor and Placement team representative prior to implementation. Set aside time after testing to act on feedback if necessary.
Project does not interconnect well with Post Placement Project	Low	Quite Likely	Should discuss how both projects interact with other student prior to starting implementation. Should hold regular check-ups to ensure neither project deviates too far from the other that
Documentation/Code loss	High	Unlikely	Ensure work is regularly backed up (preferably at separate locations) so that it can be easily retrieved if necessary.
Cannot get access to real data/documents for design and testing purposes	Low	Likely	Set aside time in Design phase to account/document structure and create fake instances for testing purposes.
Failure or delay to set up webserver	High	Unlikely	Request in first week to minimise impact of delay and provide time to consider alternatives if necessary.

Work Plan Chart: