Timetable Application for SIT Vet Nursing

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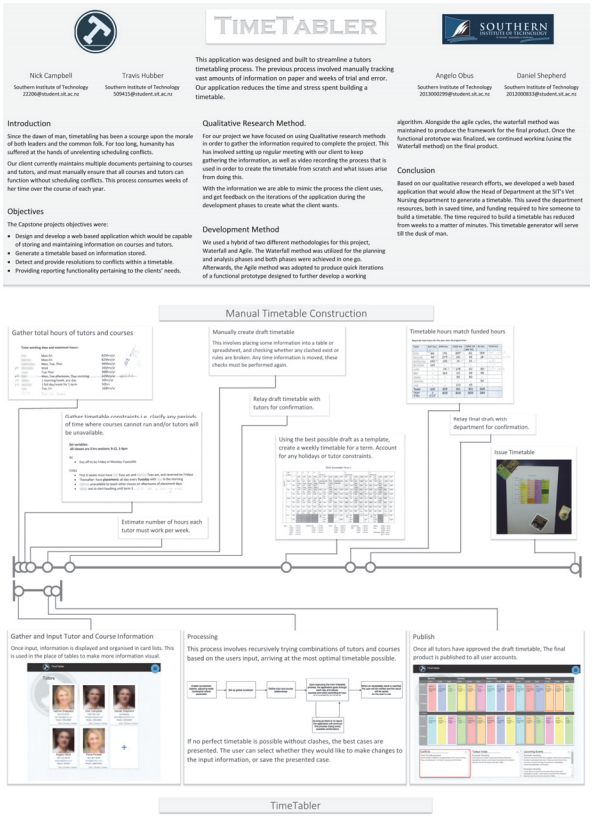
ABSTRACT

This project was to design and build an application that would replace a teacher's current method of producing a timetable. The application was developed by students at the Southern Institute of Technology. Currently the process of making a timetable involves keeping track of vast amounts of information on paper, and employing trial and error to build a timetable manually. The application reduces the amount of time taken to produce a timetable from weeks to minutes. Once the initial setup has been completed, changes can be made in seconds.

1. INTRODUCTION

Since the dawn of man, timetabling has been a scourge upon the morale of both leaders and the common folk. For too long, humanity has suffered at the hands of unrelenting scheduling conflicts.

Our client currently maintains multiple documents pertaining to courses, tutors, and must manually ensure that all courses and tutors can function without scheduling conflicts. This process consumes weeks of her time over the course of each year.



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The advent of digital technology is enabling businesses to increase efficiency while reducing cost, replacing manual paper processes with powerful automated systems. Our project has designed and developed such a system, which will generate a timetable for a user automatically, and keep track of information that would otherwise require extensive manual input.

2. THE TEAM

The roles were assigned as follows: Travis Hubber Project Manager; Daniel Shepherd Documentation and Testing; Nick Campbell Design and Development; and Angelo Obus Development.

3. OBJECTIVES

The Capstone project objectives are:

- Design and develop a web based application which would be capable of storing and maintaining information on courses and tutors.
- Generate a timetable based on information stored.
- Detect and provide resolutions to conflicts within a timetable.
- Providing reporting functionality pertaining to the clients' needs.

4. METHODOLOGY

We used a hybrid of two different methodologies for this project, Waterfall and Agile. The Waterfall method was utilized for the planning and analysis phases and both phases were achieved in one go. Afterwards, the Agile method was adopted to produce quick iterations of a functional prototype designed to further develop a working algorithm. Alongside the agile cycles, the waterfall method was maintained to produce the framework for the final product.

Once the functional prototype was finalized, we continued working (using the Waterfall method) on the final product. We found multiple benefits in doing it this way. It allowed us to focus our attention on the vital parts of our project which included the client side design and the back-end timetabling process logic. Working on the functional prototype using agile also allowed us to show the client some of our design and from that got helpful feedback that fortified our project goal.

5. CONCLUSION

Commercial timetabling software that offers accurate results to the needs of any given customer is hard to come by. Most

organizations/Institutes have some sort process for timetabling and each does it differently. For our project we are given the task of producing client specific timetabling software. The problem our client is faced with is that she spends too much time and effort trying to produce termly (8 – 12 weeks) timetables by hand. By producing software that automates the core part of her timetabling process, we are saving the client (and the organization she works for) time, money and hair follicles.

6. ACKNOWLEDGEMENTS

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