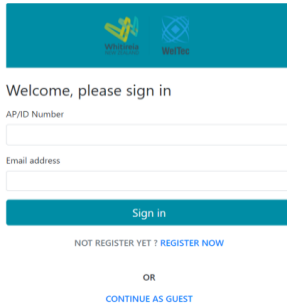


# Student Streaming System

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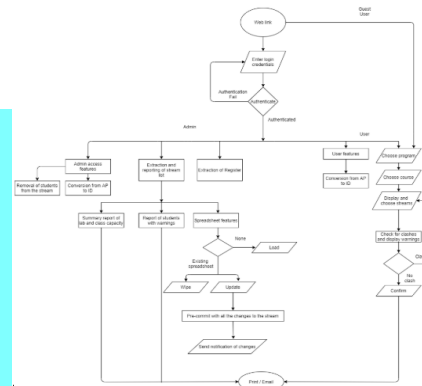
Supervisor: Ian Hunter - Client: Robert Sutcliffe



#1 SSS Login Screen



#2 The NPPN mascot, Phantayle



#3 System Flowchart

## INTRODUCTION

Student Streaming Service is a web-based stream selection application that enables students to choose their papers and streams, then view their timetable. This removes the burden of tedious manual data entry, saving both time and money for the Wellington Institute of Technology. The stream selection application also ensures that students are enrolled with the correct number of courses for the trimester whilst eliminating any possible conflicts in their chosen schedule. The application will need the student to register with their student ID and a valid email address and will be able to print their selected papers and streams once confirmed. A guest login is available for potential enrollees which allows them a view of possible timetables for the trimester. Some extra functionality also ensures that resources such as room capacity and student capacity are applied correctly.

The Institute's current timetabling system is a blend between a paper based and online system. The students will need to see the administrator to choose their streams for their labs and lectures, by registering their student ID on a sheet of paper representing the stream. The administrator will need to transfer this to their system for safekeeping and use. The online timetabling function is currently only designed for displaying which tutor and class is assigned to which room, when.

## DEVELOPMENT

The project came about as the need to have an efficient stream selection system is vital for the efficient function of the institute. The team consists of a project manager and 3 developers, each focusing on a different core aspect. The team went through the project bidding process and presented a formed business proposal to the client. This proposal featured the specifics of the product the client is looking to produce and how the team will go about developing it. This included requirements lists and milestone dates that the team has agreed too with the client. Once the proposal was approved the team began the SDLC process and started to develop systems analysis and design documentation. This is so the NPPN team and the client can both have a clear picture of the scope/functionality of the application based on the client's requirements.

It was decided that the technology and languages used to develop the application should cater to the strengths of the

team for an easier development process. The front end language used was React JS as it is very agile and adept at user interface development. PHP is utilized for the backend as it is flexible in interacting with different database languages. MySQL is the database used as it is free and easy to use. The team also decided to use the Kanban methodology, so as to have a visual representation of how the development is progressing. The team held regular meetings either physically or via discord. Discord was a great tool during the development process as it allowed a switch to work from home when COVID-19 came knocking. Team communication was very open during the whole process and that made task completion much easier.

Weekly meetings were held with the team advisor. These meetings gave us essential guidance about where the team should be and what we should be focusing on moving forward. Client meetings were also critical in the development of the student streaming service as the business requirements regarding class rules, attributes like credits, made it a complex product to initially understand. Several meetings with key figures associated with stream selection such as WelTec's office administrator gave us the information we needed to fill the gaps we had in our knowledge.

The team encountered many challenges in the development of the streaming service. The importation of the spreadsheet to the database proved to be quite challenging as it needed to be reformatted before it could be stored. Connecting the backend to the frontend was a challenge as there were huge changes that had to be made to the code to support integration. The NPPN team also struggled with individual reporting over the process, however we attribute this to a heavy focus on development.

## CONCLUSION

In conclusion the Student Streaming System is a promising development to the daily function of the institute and will undoubtedly enhance efficiency when complete as the current timetabling system is prone to human error. Over the course of the trimester, NPPN has been developing the service, however as the trimester comes to a close and handover nears the list of requirements agreed on with the client remains incomplete. If the team were to repeat the process with the knowledge we have now, this would not be the case.