

Co-designing with members of a chef school to develop a data management system

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ABSTRACT

Unemployment is a big challenge in South Africa and is often caused by a lack of education and a lack of life skills necessary for jobs. Non-profit organisations (NPO) like Infinity Culinary Training (ICT) help to alleviate unemployment by training underprivileged people with the skills necessary to gain employment. ICT currently has a problem with keeping track of student records as the school continues to grow. Designing a tool for the ICT school, made the use of a co-design methodology and an iterative approach necessary to determine the needs of the ICT admin staff. There were three research questions which dealt with the admin staffs' expectations of the use of the system, the system features and their experience with the software design process. The iterative design process entailed three iterations of design, prototype and evaluation which culminated in a final software prototype that was evaluated through usability testing and heuristic evaluation. The evaluations led to results that showed how useful co-design and iterative design processes were to the project, the success of each iteration and that usability testing and heuristic evaluation were useful in improving the design of the admin system. The results also answered the research questions by showing that the admin staff desired a system that could add and manage student records and that the admin staff found the software design process to be useful and allowed their ideas to be heard. The paper concludes that the project was an overall success because it answered all the research questions and produced a usable admin system that allows the staff to add and manage student records effectively.

Keywords

Co-design, Iterative Design, Contextual Inquiry, Software Design, ICT4D, HCI

1. INTRODUCTION

Unemployment is one of the biggest challenges faced by South Africans who come from a disadvantaged background. In most cases this unemployment can be partially attributed to a lack of education and life skills that are necessary to stay employed [1]. There are non-profit organisations (NPO) that aim to alleviate this unemployment by training people with the necessary skills to acquire and keep a job. One such NPO is Infinity Culinary Training (ICT). ICT tries to keep in contact with their students and graduates and do so by recording their details in an excel spreadsheet. However, it becomes increasingly difficult to manage this spreadsheet as the number of graduates increases. Therefore, it is necessary to provide ICT with an admin system that can easily replace the spreadsheet and ensure that ICT can manage their student database easily. This paper will focus on the collaboration with ICT to co-create an admin system for them to use as a replacement for the excel spreadsheets.

This paper will aim to answer the following research questions:

- How would admin staff want to use the system to more effectively manage their daily operations?
- How would the admin staff feel about the design process and the use of low, medium and high fidelity prototypes in designing a usable system for the school?
- What features would the admin staff identify to be most important in the design of an admin system?

These research questions will provide this paper with a specific focus on the software design process followed throughout the project and the artefacts generated during this process of design. Additionally, this will focus the paper on the specifics of the admin system that was co-created with ICT.

The paper will start with outlining the co-design methodology and iterative method and how they are applied to this project. That is followed by background information about Infinity culinary training and the stakeholders of the project. The methodology used in the project is then discussed, including the prototypes created in each iteration and the evaluation methods used. The results from the project are shown and then followed by a discussion of the results and the research questions which show the successes of the project. The paper is concluded with the project being an overall success for answering the research questions and producing a usable admin system that meets the needs of the admin staff at ICT. Finally, this is followed by future work that could be an extension of the project.

2. RELATED WORK

2.1 Co-design

Co-design is a methodology that focuses on the collaboration of researchers/designers and the end-users in all phases of the design and implementation of a project [14]. It can be viewed as a way to help organise joint creativity between the end-users and the researchers/designers [15]. It allows for an early focus on the end-user which is beneficial for understanding the end-users needs and wants early in the project [8]. In co-design end-users and researchers/designers will jointly create sketches, prototypes, mock-ups and other generative tools that aid communication to design a solution for the end-user's problem [9,14,12]. The knowledge of the end-users and researchers/designers is brought together to generate knowledge about a favourable future solution [14]. In other words, co-design is a collaboration of all stakeholders to create a solution/product that solves a problem for the end-users [9,14]. Sawhney, et al. argues that collaboration between end-users and researchers/designers is an important aspect in creating solutions or products for the end-users [13].

With the above in mind, a co-design methodology was adopted for the project. This allowed the stakeholders at ICT to collaboratively co-create an admin system that would benefit them. This

methodology was followed throughout the project with stakeholders at ICT helping to design prototypes in all three iterations. In the first iteration, the stakeholders collaborated on the design of a paper prototype of the admin system to determine the key features required of the system. The second iteration involved the co-creation of an interactive prototype which aided the refinement of the key features and helped in determining which features were most important. Finally, the third iteration involved the creation of a software prototype based upon the design and feedback acquired from the previous iterations.

Contextual inquiry is a method in which the researcher/designer will observe end-users performing tasks or even act as an apprentice to the end-user to gain insight into the end-user's operations [5,14]. The researcher/designer can then use this insight to aid in designing a system for the end-user [14,6]. Basically, the goal of contextual design is to get knowledge about the end-user's current situation and then apply this knowledge to a future situation [5,14].

A variety of methods were used to supplement the co-design methodology. These methods included workshops, interviews and contextual inquiry. The workshops and interviews were used throughout the design and development process while the contextual inquiry was used solely during the design process.

2.2 Iterative Design Process

In iterative development, the software is built in iterations and each iteration builds upon the previous iteration [7]. Each iteration should provide a complete and functioning artefact that can be evaluated [3]. In an iterative approach the feedback received from an iteration can then be used in the next iteration to improve and adjust the solution [7]. This iterative design process allows for changing requirements and the development of a system that will meet the user's needs [7, 4].

This project will make use of an iterative design process in the form of 3 iterations. Each iteration will provide a viable and fully tested artefact which can be used to inform the next iteration. The first iteration will entail the creation of a low-fidelity paper prototype, the second iteration a medium-fidelity interactive prototype and the third iteration a high-fidelity software prototype.

3. INFINITY CULINARY TRAINING

Infinity Culinary training (ICT) is a non-profit organisation that aims to equip disadvantaged people with the necessary culinary and life skills to acquire employment. They provide a 2-month course at no cost to their students. Once the students have completed the course they then progress to a 1-month unpaid internship and then finally a 3-month job before they graduate. Once a student has graduated ICT will keep in contact with them and help graduates to apply for new jobs and provide support on their professional journey.

As mentioned in the introduction ICT currently makes use of an excel spreadsheet to keep track of all students and graduates. This spreadsheet keeps track of the name, contact details and employment details of all students and graduates. As the number of graduates increases it becomes increasingly difficult for ICT to manage and maintain this spreadsheet.

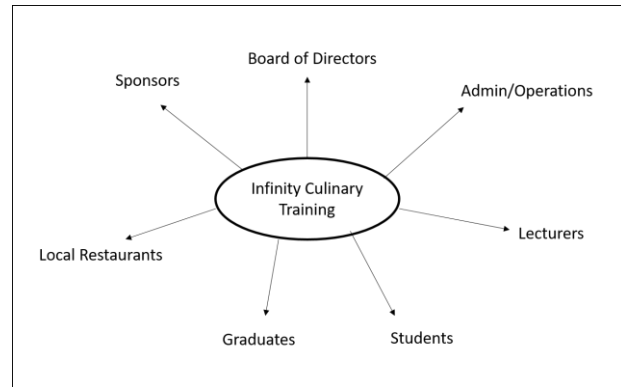


Figure 1: A stakeholder overview for ICT

ICT has many stakeholders in this project, they are shown in figure 1. ICT was started by the executive director and is run by the admin/operations staff. The lecturers equip students with the necessary life and culinary skills needed for them to acquire employment. The executive director and admin staff correspond with sponsors to acquire funds to run the school. Local restaurants are contacted by the admin staff so that internships or jobs can be organised for students and graduates.

In terms of the design and development of an admin system, the most important stakeholders would be the admin/operations staff and the executive director. The admin staff would interact with the system daily and the executive director would interact with the admin system occasionally because he also deals with admin/operations at times. More information about the impact the project has on stakeholders and the influence stakeholders have on the project is shown in table 1.

Table 1: A stakeholder matrix for ICT

Stakeholder	Impact project has on stakeholder	Influence stakeholder has on project	Strategy for engaging the stakeholder
Admin Staff	High	High	<ul style="list-style-type: none"> Interviews Focus group Shadowing Informal conversations
Lecturers	Medium	Low	<ul style="list-style-type: none"> Interviews Shadowing Informal conversations
Executive Director	Medium	High	<ul style="list-style-type: none"> Email Interviews
Board of Directors	Low	Low	<ul style="list-style-type: none"> Email
Students	Medium	Low	<ul style="list-style-type: none"> Interviews Observe a class
Graduates	Medium	Low	<ul style="list-style-type: none"> Interviews

4. METHODOLOGY

4.1 Software Design Methodology

The software design process for this project was influenced by a co-design methodology and an iterative design process. The project consisted of 2 stages, in stage 1 data was collected to understand ICT and its stakeholders and in stage 2 the software design process began.

In stage 1 all ICT stakeholders were interviewed either on their own or in a group. These interviews were conducted to try to understand ICT and how they operate. After the initial interviews were conducted, further interviews were conducted to answer any further

questions and try to get an understanding of potential problems that may require a solution. Then contextual inquiry was conducted with the admin staff to understand their daily operations and needs/wants for a potential solution. Once there was a clearer understanding of the needs at ICT the project was then moved on to stage 2.

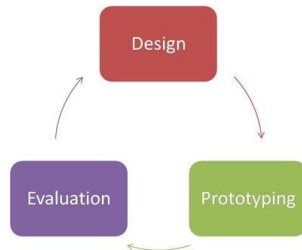


Figure 2: A visualisation of the phases of one iteration

Stage 2 was split into three iterations and each iteration was split into three phases. These phases were design, prototyping and evaluation as shown in figure 2. In the design phase ideas were generated and selected in collaboration with ICT and then sketched up. The use cases of the ideas were then thought out and noted for use in the next phase. In the prototyping phase the results were used from the design phase to create prototypes that were used to try out the ideas. Initial prototypes were created and then taken to the school for a co-design workshop where the stakeholders could add or change features and help to improve the design. Once the prototypes were created the evaluation phase began. In the evaluation phase a usability test would be conducted on the prototype generated in the prototyping phase. The usability testing was conducted with the stakeholders at ICT. The evaluation phase would then lead into the design phase of the next iteration.

4.2 Project Iterations

The first iteration of this project involved the creation of a paper prototype which modelled the idea of an admin system to replace the excel spreadsheets currently used. The feedback from the paper prototype was used for the design phase of the second iteration. The second iteration involved the creation of an interactive prototype in powerpoint, this prototype included any additions or changes made in the previous iteration. The feedback from the interactive prototype was then used in the design phase of the third iteration. The third iteration involved the creation of a software prototype which included the additions and changes from the second iteration. It was created using a mysql database, Django back-end and a HTML/CSS/JavaScript front-end.

4.3 Evaluation Methods

Two methods were used to evaluate the project, these methods were usability testing and heuristic evaluation. The usability tests will evaluate how the users interact with the interface and the ease-of-use of the interface [2]. The heuristic evaluations were used to assess the design of the interface and support the identification of flaws in the design [11]. These methods were necessary to the project and ensured that each prototype was thoroughly tested and met the needs of the stakeholders.

4.3.1 Usability Testing

As mentioned the usability testing will be used to determine the ease-of-use of the interface. The usability testing involved a cognitive walkthrough and a post-activity interview. The post activity interview was used to answer the following questions:

- Were tasks easy to perform using the design?

- What challenges were there with using the design?
- How intuitive and useful was the design?
- What would improve the design?
- Did you feel involved in the design process?
- Which features are most important for this application?

4.3.2 Heuristic Evaluation

Heuristic evaluation was used to evaluate all three prototypes to identify flaws in the design. This is different from usability testing as it was not tested by the stakeholders but rather by a few selected evaluators. These evaluators assessed the interface against some heuristic guidelines [10]. The evaluators were selected from UCT computer science students who have knowledge about design principles and HCI. The heuristic guidelines used in assessing the interface were:

- Visibility of system status
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Aesthetic and minimalist design

5. RESULTS

The results were collected through the usability testing and the heuristic evaluation of each prototype produced. The usability testing involved cognitive walkthroughs and post-activity interviews with the stakeholders which were used to gauge the stakeholders' impression of the prototypes. The heuristic evaluation involved Computer Science students evaluating the interface design and identifying design flaws.

5.1 First Iteration

In the first iteration, the ICT stakeholders and heuristic evaluators were shown the paper prototype for the admin system. An image of the paper prototype can be seen in Appendix A1. This paper prototype involved a menu screen, an add student screen and a view students screen.

5.1.1 Usability Testing

During the cognitive walkthrough, the stakeholders made changes to the design. Among these changes were a differentiation between viewing a list of current students and viewing a list of graduates. As opposed to, viewing all students and graduates together. There were also changes made to the fields required for each student/graduate, some fields in the prototype, like gender, were unnecessary while other fields, like employment history, were missing. In the post-activity interview the feedback was quite positive, with the additions and changes the stakeholders had made, they felt the admin application would be adequate for their needs. The stakeholders found it easy to perform the tasks and besides the different types of exit button they said they encountered no challenges when using the design. They also said that the design was quite intuitive and useful and felt very involved in the design process. When asked what improvements they would like to see in the design, they mentioned the changes they had brought up during the cognitive walkthrough, including the addition of a student view and a graduate view and the addition of fields in the database. Finally, the stakeholders determined that the most important features of their system were the adding, viewing, editing and deleting of student and graduate records.

5.1.2 Heuristic Evaluation

During the heuristic evaluation, three computer science students evaluated the interface design based upon the heuristics mentioned in the methodology section. Some of the evaluators commented that it was not explicitly clear what state the system was in at times. For instance, when in the view students page there was nothing that informed a user that the page was for viewing the students. Therefore, the evaluators determined that a status bar at the top of the page that explicitly stated which page a user was on would be needed. The evaluators stated that while there was user control, it was confusing because each page had a different way of exiting that page. Thus, it was suggested that the exit or go back option be standard in both phrase and position on the page. One evaluator suggested the go back button could be on a status bar at the top of the screen, which helped ensure users had user control and there was a standard across the system. On one of the pages there was a delete button that allowed the user to delete a student, one of the evaluators mentioned that a confirmation might help prevent an accidental deletion. This would ensure that if a user accidentally pressed delete the student would not immediately be deleted unless the user confirmed the action. Evaluators also mentioned that the overall design was quite minimalist and didn't seem to include any unnecessary detail.

5.2 Second Iteration

In the second iteration, the ICT stakeholders and heuristic evaluators were shown the interactive prototype for the admin system. An image of the interactive prototype can be seen in Appendix A2. This interactive prototype included a menu screen, an add students screen, a view students screen, a view graduates screen and an edit screen.

5.2.1 Usability Testing

During the cognitive walkthrough, the stakeholders could make changes to the design. The main change the stakeholders wanted was the addition of functionality that allowed images and files to be uploaded and attached to a student record. This would allow them to attach an image of the student and a pdf of their graduation report to their record. The stakeholders also requested for a new view that would allow them to view the dropouts separately from their students and graduates. In the post-activity interview the stakeholders were quite pleased with the progress of the project and felt that the design was still easy to use and intuitive. They also felt that they faced no challenges when using the design and felt very much involved in the design process. When asked what functionality would improve the design they mentioned the ideas they had during the walkthrough and also requested for filtering functionality which would allow them to filter through student records based upon name, class and year (as per prototypes) as well as by current employment and employment history. They felt this would allow them to easily manage their student records and keep track of where their graduates were working. The stakeholders still felt that the adding, viewing, editing and deleting of student records was still the most important feature of the admin system.

5.2.2 Heuristic Evaluation

The same students from the previous iteration were used as heuristic evaluators. The evaluators noted the improvement from the previous design whereby users were now explicitly told what state the system was in and could easily identify the state. They also noted that there was now a standard way to return to the menu which improved upon the first iteration. Some evaluators also noticed that the delete option still lacked a confirmation to ensure

that student records were not accidentally deleted. It was recommended that this be included in the next iteration because it would support error prevention. One of the evaluators mentioned that it may be simpler for users if all available pages were displayed in the status bar, as this would allow users to freely navigate the system without returning to the menu each time they wished to change the page they were on. They suggested that the selected page should be highlighted or displayed more noticeably than the other options, to ensure users still knew the state of the system. This would help users with a recognition over recall approach to the status bar. It was also mentioned that editing of student records could be simpler if they could occur in the grid instead of directing to a different page. The users would be quite familiar with this due to their use of excel and it would promote a minimalist design and ensure nothing unnecessary was included in the system.

5.3 Third Iteration

In the third iteration, the ICT stakeholders and heuristic evaluators were shown the software prototype for the admin system. An image of this prototype can be seen in Appendix A3. The software prototype included an add students front-end and a view students, view graduates, and view dropouts front-end and back-end.

5.3.1 Usability Testing

During the cognitive walkthrough, the stakeholders were not able to directly change the design because it was a software prototype. However, they could make requests for any changes as they went through the system. The stakeholders did not request changes during the walkthrough and were again quite pleased with the progress of the project. They did comment that they were pleased that they could edit student records from the grid and that they could filter student records by name, class, year and employment. In the post-activity interview, they felt that the design was still easy to use and intuitive and they faced no challenges when using the prototype. They felt that the design had been suitably changed and were pleased with the outcome. When asked if they felt involved in the design process, one stakeholder said: "I felt like my ideas were heard and valued. All my ideas were integrated within the app in a clever, productive way". In addition to the questions asked during each iteration a further question was asked in this iteration. The stakeholders were asked how they felt about the use of the different types of prototypes during the project. The response was quite positive with the stakeholders agreeing that they could see improvement in each iteration and it was quite helpful in visualising their ideas.

5.3.2 Heuristic Evaluation

The same students from the first two iterations were used for heuristic evaluation in the third iteration. They noted that their feedback from the previous iteration was taken into consideration, the system could confirm if a student should be deleted before deleting the record. Additionally, the status bar displayed all pages available to the user and the grid allowed for student records to be edited. Some evaluators noted that the addition of the uploading of images and files was implemented well. It was noted that allowing it to only be visible when a student record was selected would allow for error prevention because users would not be able to upload a file or image that wasn't attached to a record. The evaluators all stated that with the changes from the previous iteration, all the heuristic guidelines seemed to be suitably accounted for and therefore the system was greatly improved and should be intuitive for the user.

6. DISCUSSION

The first iteration of the project produced a paper prototype of a web app admin system that allowed users to add a student on one page and view and manage students on another page. The feedback from the stakeholders and heuristic evaluators provided several changes and ultimately improved the initial design of the system. The results from the first iteration showed that the problem had been correctly identified but that the design still required modifications to ensure the best solution.

The second iteration of the project produced an interactive prototype of the web app admin system that allowed users to add a student on one page, view students and graduates on other pages and edit records on another page. Again, the feedback provided by the stakeholders and heuristic evaluators provided many changes and improved the design of the system. The results from the second iteration showed that many improvements were made to the design but there were still a few modifications that could ensure a better solution.

The third iteration produced a software prototype of the web app admin system which allowed users to add a student on one page and view and manage students, graduates and dropouts on other pages. The feedback provided by the stakeholders and heuristic evaluators showed that most of the issues had been fixed and that the design was vastly improved from the first iteration. The results showed that the third iteration produced a usable and well-designed solution that could easily meet the needs of the stakeholders at ICT.

The use of usability testing helped determine that the stakeholders found the solution to be easy to use and intuitive. It also helped to determine when users had challenges with using the prototype and led to improving the design. It allowed the stakeholders to provide ideas that could improve the design and provide the functionality they required. Additionally, it proved that the stakeholders felt involved in the design process and that they felt their ideas were valued and taken into account. Finally, it helped in determining which features were most important to the stakeholders. Overall, the usability testing was invaluable to the software design process.

The use of heuristic evaluation helped determine flaws in the interface design. This then allowed for improvement upon the initial design, therefore creating a more suitable interface design. The results proved that each iteration was an improvement from the previous iteration and supported a productive design process. Therefore, heuristic evaluation was an important part of this project and ultimately helped in designing an effective and usable solution for ICT.

Co-design proved to be essential in creating a solution for ICT that would be useful to them and met all their needs. Merely designing the software without consulting ICT and without co-creating with them would have proved fatal to the project. There were many parts of the initial design that were flawed and did not entirely solve the problem correctly but once the stakeholders were involved these issues were resolved. Receiving feedback allowed for the project to move forward with more insight into the needs of ICT and the best design for the solution.

The iterative process was instrumental in the co-creation of the admin system. Each iteration allowed for a clearer understanding of the best solution for ICT and allowed for improvements to the design. It also allowed for regular feedback from ICT during the project which improved the design and aligned it with the needs of ICT.

The results allowed for each of the research questions to be answered as follows:

The admin staff wanted to use the system to more effectively manage their daily operations by being able to quickly and easily add student records to their database and easily view, find, edit or delete student records from the database. This was determined in the two initial interviews with ICT wherein the admin staff was interviewed to find out about the school and how they operate every day.

The features the admin staff determined were most important were the adding of student records and the viewing and managing of these records in views that separate students, graduates and dropouts. Additionally, they also found the uploading of images and files for student records to be important as it allowed them to see the student's picture and easily find their graduation report. This also tied in with the previous research question because it would allow the ICT staff to more effectively manage their daily operations by not needing to search for these documents.

The results showed that the admin staff felt quite positive about the design process and felt that their ideas were heard and valued. Throughout the design process the admin staff were always happy to participate in the co-design activities and were always pleased by the improvements each iteration provided. In addition, when asked about the use of prototypes in the design process the stakeholders said that the use of the different prototypes helped in visualising the system. It also showed them the progress of the project and allowed them to easily change design choices and request additional functionality.

7. CONCLUSIONS

The results showed that the paper prototype of the first iteration led to a better design of the system. They also showed that the interactive prototype of the second iteration further improved on the design and provided better usability. Finally, they showed that the software prototype of the third iteration had further improved upon the system design and produced an intuitive and usable system for ICT. Each iteration helped to ensure that the solution was aligned with the needs of ICT and provided the functionality they deemed important. Therefore, the iterative process was ultimately a success and greatly aided the software design process.

The iterative process and co-design methodology proved to be a useful combination for this project. The solution was iteratively co-designed and aligned quite well with the needs of the stakeholders from ICT. It could perform all the functions they required and provided an easier method of data management over the excel spreadsheet.

The usability testing and heuristic evaluation proved to be valuable methods of evaluation and ultimately led to an improvement in the design of the system.

Each of the research questions were answered in turn by the results from the project. They showed that the way the admin staff wished to manage their operations effectively coincided with the features that the admin staff deemed most important for the admin system. It was also determined that the admin staff found the software design process and the artefacts produced therein to be quite useful in designing a usable admin system.

Through the iterative, co-design software design process it was possible to produce a usable admin system that would allow the admin staff to easily manage their student and graduate database. In addition, it is an improvement upon their previous system and allows the admin staff to make effective use of their time.

Therefore, it can be concluded that overall this project was a success. The research questions were all answered and a usable system was created. The stakeholders at ICT would be able to use this system to easily manage the student/graduate data and effectively manage their daily operations.

8. FUTURE WORK

It was identified that the stakeholders at ICT wanted a CV generator so that they could make CVs for their graduates. Due to the time constraints of the project the CV generator could not be made. As such an extension to this project could be making the CV generator.

To keep track of applicants the admin staff have an excel spreadsheet, once the class is selected the admin staff must then transfer the records of the selected applicants into the student database. Therefore, another extension to the project could be an addition to the admin system that allows the admin staff to keep track of applicants for the next class. The records of successful applicants could then be passed on to the student database and the admin staff would then not need to input the data again when they have selected a class.

9. ACKNOWLEDGEMENTS

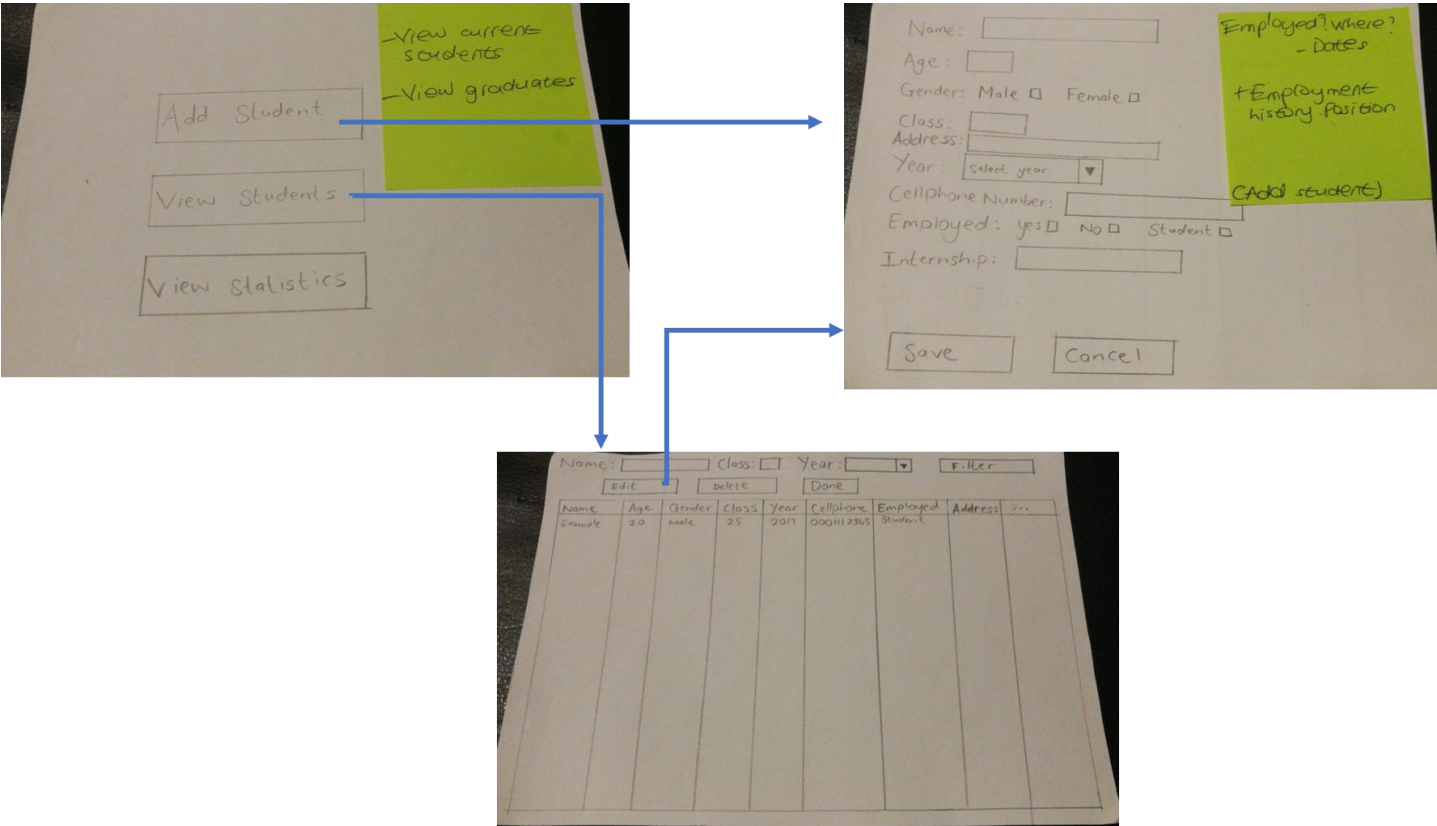
Thank you to my supervisor Dr. Brian DeRenzi for the advice and help with the project. Thank you to ICT and the admin staff for being accommodating and willing to work on the project together.

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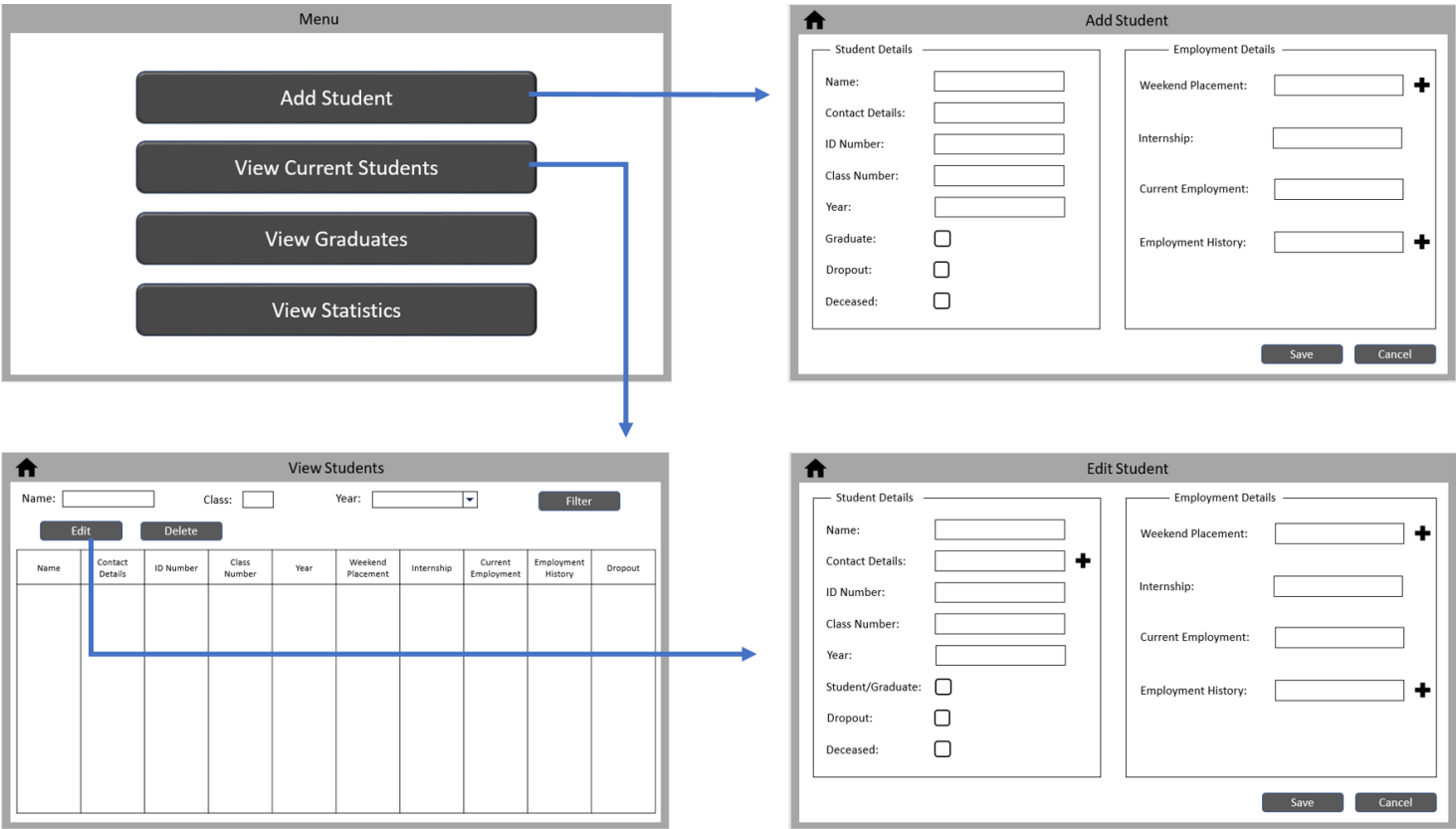
APPENDIX A1

Paper Prototype



APPENDIX A2

Interactive Prototype



APPENDIX A3

Software Prototype

[Home](#) [Add Student](#) [View Students](#) [View Graduates](#) [View Dropouts](#) [View Statistics](#) [Logout](#)

Add Student

Name:

ID Number:


Contact Details:

Year:


Class:

Picture:

placeholder-user.png



[Home](#) [Add Student](#) [View Students](#) [View Graduates](#) [View Dropouts](#) [View Statistics](#) [Logout](#)



testSubject1

Upload Image: No file chosen

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Name	Class Num...	Year	Weekend Placement	Internship	Current Employment	Employment History	Status
testSubject1	0	2018	place3	place2	place2	place2, place3, place4, place5	student
Luvuyo Mkontwana	25	2017	Primi Piatti V&A	Primi Piatti V&A	None		student
Mandisa Kolisi	25	2017	Vineyard Hotel	Vineyard Hotel	None		student
Miranda Titi	25	2017	WW Waterstone	WW Waterstone	None		student
Nandipha Plaatje	25	2017	Westin	Westin	None		student
Nompumelelo Mbele	25	2017	Vineyard Hotel	Mount Nelson	None		student
Nosiviwe Mdletye	25	2017	Reverie Social Table	Reverie Social Table	None		student
Siphenathi Booysen	25	2017	WW Waterstone	WW Waterstone	None		student
Siphokazi Pere	25	2017	Vineyard Hotel	Mount Nelson	None		student
Sisipho Ntshwaqela	25	2017	WW V&A	WW V&A	None		student
Anathi Nombula	25	2017	Primi Piatti V&A	Primi Piatti V&A	None		student
Zukiswa Mfazwe	25	2017	Primi Piatti V&A	Primi Piatti V&A	None		student
Asiphe Macana	25	2017	One & Only	One & Only	None		student
Aviwe Gcuze	25	2017	Primi Piatti V&A	Primi Piatti V&A	None		student
Brandon Moses	25	2017	Double Tree by Hilton	Double Tree by Hilton	None		student
Emanuel Nkosinathi Ngo...	25	2017	One & Only	One & Only	None		student
Iris Brown	25	2017	Braai Café	Braai Café	None		student
Kwanele Maseko	4						student

* Sensitive data (contact details and Id number) has been hidden in the student view for this paper

** View students, graduates and dropouts all look the same but show different data