Evaluation Report

Deliverable 5 – SP300 – 2018

W.P. RUGBY ACADEMY

RugBot Development Team
Group 2

Group number:	2
Group name:	RugBot
Members:	**Student number:** XQ9X3WV31 **Name:** Matthew **Surname:** Van der Bijl
	Student number: MB2015-0023 **Name:** Tyler **Surname:** Gray
	Student number: PXHTJDCN5 **Name:** Stefanus **Surname:** Buys
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Customer:	**Full Name:** Angelo Nelson **Company:** WP Rugby Academy **Industry:** Sport Science

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Introduction

The RugBot development team was tasked with the creation of the RugBot mobile application. The aim of the application was to develop a system to manage and support the record keeping of the Western Province Rugby Academy.

The following report will act as a final evaluation of the project. The report will contain an evaluation of the project, commentary of the design methodology, an evaluation of customer involvement, commentary of group involvement, time management review and personal thoughts of each group member.

The final system & Customer Requirements

The final outcome of the system was what the RugBot development intended it to be. The system has met all customer requirements in an efficient manner.

Concerning the design point of view, the RugBot application is user-friendly with a clean minimalistic design for ease of application. The application is designed in such a way that every intended user has the ability to make use of the application without any difficulty or confusion.

In relation with the function aspect of the system developed, RugBot has met all functional requirements intended for the application. All functionality operates the way it is intended to and operations occur without any delay time.

List of Functional Requirements

The table below displays functional requirements in order of priority.

Table 1 Functional Requirements

Identifier	Requirement Description	Priority	Source	Status
FR01	Users must use a one-time login to log in to the application for authorisation purposes.	High	RugBot Development Team	Met
FR02	Coaches must be able to take an attendance list of students at practice.	High	Coaches	Met
FR03	Coaches must be able to view a backlog of student's attendance for past dates.	High	Coaches	Met
FR04	Coaches must be able to view a list of all their students and their availability for practise sessions and matches.	High	Coaches	Met
FR05	Coaches and students must have a calendar with a practise match dates and times.	High	Coaches	Met
FR06	The physiotherapist must be able to mark a student as injured and not able to practise or play matches.	High	Physiotherapist	Met
FR07	The physiotherapist must be able to add an estimated date of when a student will be able to practise again.	High	Physiotherapist	Met
FR10	The coach must be able to assign jersey numbers to players on match dates.	High	Coaches	Met
FR11	All users need to be able to see the injury status of a player.	High	Coaches and Physiotherapist	Met
FR13	Coaches need to be able to schedule a match.	High	Coaches	Met
FR14	Coaches and students need to be able to see match teams.	High	Coaches and Player	Met

Identifier	Requirement Description	Priority	Source	Status
FR18	Players must be able to update their personal information	High	RugBot Development Team	Met
FR19	Coaches must be able to update their personal information	High	RugBot Development Team	Met
FR20	Physios must be able to update their personal information.	High	RugBot Development Team	Met
FR21	Coaches must be able to add and remove players.	High	RugBot Development Team	Met
FR09	The coach must be able to see the total of boys at practice.	Medium	Coaches	Met
FR12	Coaches and physio must be able to view the medical history of a player. A player must only be able to see their own data.	Medium	RugBot Development Team	Met
FR15	Players must be notified when they are playing games.	Low	RugBot Development Team	Met

Iterative & Incremental Development in Agile

The RugBot development made use of the Agile Methodology, making use of iteration and incremental development style to produce the RugBot application. When compared to more traditional development methodologies, like those suggested by Sommerville (2001) and Pressman & Maxim (2015), there are clear advantages is making use of an agile development methodology (Schwalbe, 2012). Agile supports four main principles for developers, namely:

1. Customer collaboration;
2. Response to client requirement changes;
3. Software development over documentation; and
4. Interactions over processes and tools (Sacolick, 2018).

The term incremental is defined as the ability to add new functionality in small parts. This allows developers to focus on perfecting sections of a system simultaneously. The advantage of this methodology is to allow developers to conduct testing after increments have been completed. This allows bugs to be fixed during the early stages of development (Ghahrai, 2018).

The term Iterative is defined as adding new functionality in a repetitive manner. This allows developers to stick to a constructive time management schedule and ensures that deliverables are completed when due (Ghahrai, 2018).

By making use of this methodology, developers are exposed to learn how to grow from the initial and early sections of the work which has been completed. Learning objectives could include better time management skills, communication amongst team members and work ethic in general. It allows developers to learn and evolve from their mistakes (Ghahrai, 2018).

The agile methodology was the best-suited method to mobile development (Pearlson & Saunders, 2013), such as the RugBot application. The application contains three users with various amount of different functions for each user. By making use of this methodology, it allowed the RugBot development team to work on each user separately but simultaneously and eventually cohesively bringing together the mobile application as one working software.

Customer Evaluation

The RugBot development team had an open and clear communication pathway with our customer. Angelo Nelson is a coach for the Western Province Rugby Academy and has been our correspondent during the development of the RugBot mobile application.

In the beginning stages of development, namely planning and gathering requirements, we had regular meetings with our customer to ensure that they knew exactly what they wanted the application to achieve. The reason for conducting regular meeting was to ensure that we as developers had a clear understanding of our customer and the business, to development exactly what they had envisioned.

The Western Province Rugby Academy is situated on the same premises as our development team's working space. We had constant access to our customer at all times. We also had our customer on the WhatsApp mobile application which made instant messaging frequent and easy for both parties. If there was a situation where any party was no sure about an aspect of the application being developed, it was resolved and cleared immediately.

During meetings, the RugBot team recorded what was verbally stated to ensure that there was no miscommunication between developers and the customer. The customer has expressed concerns where he did not initially have a clear idea of what was needed and wanted from the mobile application but the RugBot team provided ideas and concepts that allowed the customer to tell us exactly what was wanted.

Overall, the customer felt comfortable with the RugBot team and new that what he wanted was going to be delivered. Communication between the customer and the RugBot team was constantly open which resulted in a good customer relationship situation.

Group Dynamics and Team Collaboration

The RugBot development team performed well as a cohesive unit. Communication was always kept open during the development process of the RugBot application. A WhatsApp group was created to ensure instant messaging was possible. When it came to sharing information, documents and code, GitHub and email were used.

All group members had a chance to browse through every deliverable to ensure that all work was correctly conducted. There was always room for input and advice to be given.

Time Management

Time management is always a difficult task to accomplish successfully, especially when individuals are faced with numerous other tasks simultaneously with the one at hand. With that being said, during the development of the RugBot mobile application, every individual in the team had their own time to consider against other subjects and their own personal lives.

During the initial stages of development, the RugBot team was on top of time. All work is completed for deliverables was done well ahead of time. However, when it came to the actual development of the mobile application, time started to creep upon the team. One of the main reasons for this was the frustrating task of learning how to deal with the framework at hand namely; Ionic Framework.

Ionic was fairly new to all members of the group and therefore simple tasks seemed to take up more time than expected. You would assume a task would take a certain amount of time but at the end realising it has taken more time than expected because of the constant learning of how to use the framework.

Another factor that contributed to the time creep up was all the other work which needed to be done simultaneously to the development of the mobile application. It would be fair to say that the final semester of the final year in our studies has been the most workload every team member has dealt with.

Overall, the RugBot development team had fairly good time management when it came to development, communication and contribution. However, we lacked when identifying which tasks needed more concentration and therefore found ourselves scrunching for time to complete certain functionality.

Lessons Learnt

Stefanus Buys

Developing the Rugbot application has been a challenge, although mostly a good one. It was the first time our group members collaborated and getting to know each other has been interesting. I am quite introverted, and communication is not my strongest skill. I learnt the importance of keeping in contact with my team members during development. We had our differences, but we were successful in resolving personal issues. I learnt that having a leader and knowing one's place is important in the development process. There was quite a lot of technical skills that I picked up during the development of the application, but the most important lessons I learnt are about group dynamics and relationships within a professional environment.

Tyler Grey

The RugBot development team decided to make use of the Ionic framework to develop the mobile application. During the course of the year, I have learnt many new languages and frameworks that needed to complete certain modules. Ionic has been the most annoying and difficult to get comfortable with. I found myself constantly struggling to get functionality to work and design to view the way in which I wanted it to. However, this does not mean that I did not learn anything. Through the struggle, I have managed to get used to the Ionic framework and deliver what I needed to. It was frustrating but that is where patience was learnt to. Also, I learnt to ask for input and suggestion were needed to ensure that I understand every aspect of the mobile application.

Time management was not conducted in the way I had liked it to be. All work which my responsibility was completed when needed to be, but I would have liked it to be completed much early than required. This was due to the workload of the entire semester.

Working in a group is always difficult due to every individual's different work ethic. I have realised that individuals proceed with completing tasks in different ways that I would. Therefore, I have learnt that communication is a key component in group work. When confused about a specific task or statement; clarify what you are confused about, when needing to know something specific about anything during development; communicate by asking group members and when miscommunication occurs; communicate your thoughts and opinions to your team members.

Overall, I do believe that every team member had a lot of learning to accomplish when building this application and struggled through frustration. However, in the end, we managed to complete all tasks required with a satisfactory end product.

Abongile Mdleleni

In this group project, I have learnt quite a few things through the development of our App. It has been a rollercoaster of emotions and a great learning experience. I have learned to use Ionic Framework, ionic is a cross-platform development tool used to develop phone applications. In our app, we have used frameworks, plugin and hard-coded some of the functionality in the app. I have learned to code in TypeScript, we are using it as the main programming language in our development as well as HTML and SASS. Since the beginning of development, it has been an interesting journey facing multiple challenges. Debugging abilities have grown quite a bit, with each successful completion and testing we integrate a new feature which breaks everything. That requires countless hours to fix before moving on to the next task. This repetition of events has sharpened my debugging abilities.

I have been reminded of the importance of time management and teamwork, with everyone doing their part has allowed progress to be much quicker and swifter as we achieve more by working together. I have also learnt how to use Firebase, which is what we are using for our database. It has been quite an experience with some challenges as a first-time user being and being nominated as one of the database administrators for this project. I am grateful for the nomination, challenging it is but I have gained a new skill in the process.

Mathew Van der Bijl

Frameworks are more trouble than they are worth. This is something that I had heard of but never fully understood until I started to work on this project. Compared to last year's project where native Android was used, this year was a significant jump in complexity and energy required to complete simple tasks. I feel that the framework was not only not helping me develop the system but actively preventing me from doing so. Don't take this point as me not wanting to learn a new system only that the amount of learning required was disproportional to the task that needed to be completed.

As with all projects, time management could have been better. I am happy that I managed to stay on top of my other work which allowed to put more work into the projected when needed. I feel that the project will be completed within the allocated time and the client will be satisfied. In conclusion, I learnt a lot working on this project.

Bibliography

Ghahrai, A., 2018. *Difference Between Iterative and Incremental Development in Agile.* [Online]
Available at: https://www.testingexcellence.com/iterative-incremental-development-agile/
[Accessed 15 October 2018].

Pearlson, K. E. & Saunders, C. S., 2013. *Managing & Using Information Systems A Strategic Approach.* 5th ed. New Jersey: John Wiley & Sons, Inc.

Pressman, R. S. & Maxim, B. R., 2015. *Software Engineering a Practitoner's Approach.* 8th ed. New York: McGraw-Hill Education.

Sacolick, I., 2018. *What is agile methodology? Modern software development explained.* [Online]
Available at: https://www.infoworld.com/article/3237508/agile-development/what-is-agile-methodology-modern-software-development-explained.html
[Accessed 15 October 2018].

Schwalbe, K., 2012. *Infomation Technology Project Management.* 7th ed. Boston: Cengage Learning.

Sommerville, I., 2001. *Software Engineering.* 9th ed. Boston: Addison-Wesley.