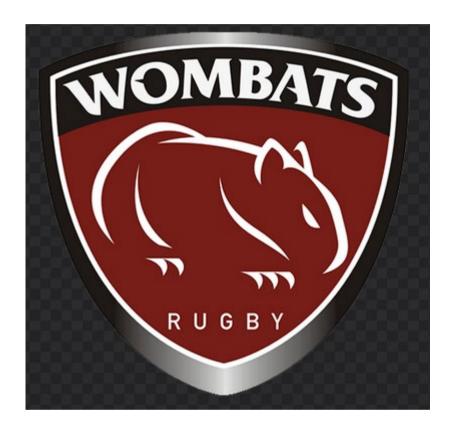**University of Technology, Sydney**
Faculty of Engineering & Information Technology

32040 Industry Project

Case Study – Autumn 2020

FURTHER DETAILS / INFORMATION

A High Level Design for the WOMBATS RUGBY Project

Date: March 2020
Version 2.0

iStadium is a new organization in the provision of IT / IS solutions in the sports venue and facilities market. Your project team is a part of iStadium.

WOMBATS RUGBY is a new rugby union franchise for a professional rugby union team to be entered into the Super Rugby competition in 2022. WOMBATS RUGBY has the financial support of 10 very wealthy silent partners.

There is a current project being developed to build a specifically designed complex for the WOMBATS RUGBY organization, and as such WOMBATS RUGBY has approached iStadium to provide a state-of-the-art IT/IS solution to be incorporated into the build of the complex.

The complex will have the following (as a minimum):

The main stadium will have a seating capacity of 80,000 spectators. The seating will be in an upper section holding 40,000 spectators and lower section also holding 40,000 spectators.

The upper and lower sections will each have 30 corporate boxes and 50 private boxes as part of the 40,000 spectators in that section.

The private boxes will be fully enclosed and have a capacity for 30 people, will be fully catered with gourmet meals and a full wet bar.

The corporate boxes will be partially enclosed and have a capacity for 20 people. The catering for the corporate boxes will have trays of canapes delivered at differing times during the matches and will have a self-serve "esky" bar which will be replenished as needed during the match.

On match days, WOMBATS RUGBY is looking to provide private and corporate box holders with an extended experience. By this, WOMBATS RUGBY is looking at the provided solution to offer more than just watch the match with catering.

The following will be housed in the main stadium:

Administration – Responsible of the general day to day running of the organization (e.g., team contract management, salaries, purchasing of all equipment for the organization including playing and training equipment and general day to day running of the organization;

Team Management offices – 1 x Team Manager, 1 x IT / Technical Support, 1 x Team (Gear) Steward

Coaching Staff offices – 3 x Coaches, 2 x Strength and Conditioning coaches, 1 x Doctor, 1 x Physiotherapy, 1 x Dietitian,

Match review and analysis room – Analysis of matches, individual players performances and various training and testing data. This room also doubles as a small meeting room for groups up to 10 people.

Medical Rooms - 2 x Medical Consultation / Examination Rooms - which will also be used during matches, 2 x Physio / Rehab Rooms

Team Gym – 1 x Fully equipped gymnasium with free weights and pin loaded weights, 1 x 4 lane 25m indoor pool, 1 x Cardio Room

Change / Locker Rooms - 4 x Player Change rooms each with an adjacent recovery room with ice tubs, 2 x Referee / Officials Change Rooms

Coach Towers – There will be two towers built into the stadium. One for each team's coaching staff for game days. Communication to the field staff/trainers, medical staff and change rooms during a match will be via the team's respective tower. It is vital that the coaching staff have access to all live player and match statistics during the match.

Team dining room and kitchen – the general day-to-day meals, post and pre training meals, etc will be prepared and available to the players and coaching staff. This room may also be used for team meetings.

Function Room – This room will be used for the more formal post-match functions and any WOMBATS RUGBY functions, such as sponsor's dinner, team end of season awards night.

Training field adjacent to the main competition field. The two will be connected via an access tunnel and as such the training field will be used as the warmup area before competition matches.

Attached to the training field will be an equipment storage facility. This will predominantly house all the equipment used in any field training session, e.g. scrum machine, balls, hit shield, tackle bags, running equipment such as hurdles, ladders, etc

Next to the storage facility will be the grounds staff offices and a separate storage facility to house all the greenkeeping equipment, e.g., mowers, line marking equipment, etc

While the complex is for WOMBATS RUGBY, there will be some occasions where the facility may be used for other rugby union matches such as the grand final and other representative fixtures. When these matches are being held, it is intended that only the lower section of the stadium will be used so as to create a "large crowd" feeling. To facilitate this, it is expected that the proposal will also address that matter of sectioning or screening off the upper section.

The site for the complex is still being finalized, however it is anticipated it will be an inner-city location in Sydney. The area where the current Sydney Cricket Ground / MGM Studios are is one area being considered.; and for the purposes of this project, may be used as a reference site.

Transport to and from matches would be mainly via public transport and arrangements are being finalized with the NSW Transport to provide free transport for all ticket holders to matches.

The complex will have parking available for 5000 cars.

Private box holders will, as part of the annual fee for the private box, will be provided with a complimentary hire card service. This will not be provided for the corporate box holders; however, corporate box holders will be provided with reserved parking at the stadium.

The complex parking will have reserved parking for all employees of WOMBATS RUGBY. This include administration staff, team staff and players. To ensure there is sufficient spaces 125 parking spaces will be reserved. Of these 125 spaces, 25 will be allocated to the opposing/visiting team.

The complex will also hold industrial sized kitchens, chill rooms, etc, to manage all the catering for the corporate and private boxes and the 20 food and beverage outlets located throughout the stadium for the general public. The kitchens and chill rooms are out of scope with the exception of communication to the boxed and outlets for restocking during matches as required.

The solution should address a cashless stadium and match tickets are to be paperless. This applies ticket sales and food and beverage outlets.

It is expected, to be successful, that the project will provide a state-of-the-art solution that will enhance and take the sport's spectator experience to the next level while also providing the team's training and playing facilities as "better than world class". One of the investors was quotes as referring likening this to the iHomes of sport!

Currently there is no existing project specific IT infrastructure or IT staff, it is expected that the solution will also address staffing recommendations for the running and management of the solution.

The provision of the network for the complex and general IT infrastructure will be source and provided as part of another project and as such is out of scope. This also includes the general office software (e.g., payroll, stock control, etc) and hardware. Additionally, all general office equipment, desks, tables, chairs, etc, are also out of scope.

However, any components that are required as part of, or specific to your solution are in scope – e.g., mobile devices, BYOD, etc.

In general, all components that are not related to your IT/IS solution are out of scope. However, any

components that are required as part of or specific to your solution are in scope – e.g., IT components, PDAs, smart watches, intelligent cash registers/POS, etc.

Your team may assume that there is sufficient power, lighting and general telephone communications to satisfy the project's requirements. The costs associated with the utilities (gas, electricity, water, etc) for this solution will be absorbed into the general running costs and do not need to be considered when costing the proposal. All other costs related to the proposed solution, including "solution based" staff must be included in your costs.

The project, once live, will be running 24 x 7 during the competition season and may run 8 x 5 during the off season. The off season normally runs from 1 July to 30 September each year.

WOMBATS RUGBY is expecting that your proposal, you will also provide recommendations for the management and maintenance of the solution once live.

It is understood that, in some circumstances, components of the solution may need to be outsourced, however any outsourcing must be firstly approved by the WOMBATS RUGBY Client Manager, and fully justified and supported in your proposal. Additionally, it is expected that any outsourced component(s) be fully specified in your report and additionally if managed by the delivery organization / team, the appropriate ongoing management structure / process of the third party(s) should be reflected in a proposed Service Level Agreement as part of your proposal

Note: Excessive outsourcing will not be favourably accepted, as your team is the specialists and solution providers. (Very important consideration: If your solution is all outsourced, why wouldn't your client just bypass you and deal directly with the third parties? This does occur and impacts on $$)

Funding / Budget:

Due to the available financial resources, and the increasing interest with potential, additional external backers there is an unlimited budget for this project.

But be realistic. WOMBATS RUGBY is looking for a state-of-the-art solution that will take their organization well into the future, and not just at the current state of technology.

It should be noted that WOMBATS RUGBY will only consider suitable solutions that have addressed the basic concept of value for money, while ensuring that the solution is truly state-of-the-art and will take the project well into the 21st century.

Remember: You are in essence competing to provide the winning solution.

HINT: It is not always the less expensive solution that wins a bid; but rather a bid that is the best fit to the customer's requirements and works with their budget.

Requirements:

Your team is required to design a suitable high-level IT and IS solution to address all the following business components and requirements.

All seating at games
Private Boxes – Transport, Experience and catering
Corporate Boxes – Catering
Outlets – Game day stock replenishment
Sales / stock control management at outlets – food/beverage and souvenir
Parking management
Game day communications
Medical issues and management
Screening off sections of stadium
Access – ground, change rooms, gym, stadium, car park
Security – change rooms, etc
Game day match and player statistics
Storage of player and match data – medical / training / general player information

Value Added Components:

As all proposals are in general somewhat similar, you are encouraged to examine technologies so as to provide some "value added components" which would make you solution stand out. (*Hint: This usually attracts bonus marks*)

Out of Scope Components (Not to be addressed):

Buildings and general office furniture
Standard fit outs relevant to room*, e.g., locker in change room, food prep equipment, fridges, etc
Standard telephone handsets – mobile phones are in scope if being used as part of your solution
Administration & Team Staffing – however staffing for the ongoing management of the solution is in scope.
Financials not related to your proposed solution
Issues related to legislation and governing bodies, e.g., Tax Laws, Immigration Laws, Import/Export Laws, etc
You may also ignore any / all issues related to the Privacy Act, Immigration (work visa, etc)

* Components that are not standard would become in scope. E.g., using an iFridge instead of a standard fridge. The iFridge is in scope and the normal / non iFridge is out of scope.

As this request has been placed in the Australian market, it is envisaged that initially your solution will focus primarily on the Australian components and providers, however utilising modules and components from outside Australia will be acceptable, but only on the condition that the proposal fully addresses the support structure for such inclusions, which include total management recommended by your team.

In Scope:

The main issues / areas that your proposal should cover are:

1. Requirements Analysis
2. Any Additional Hardware
3. Any Solution specific Network
4. Software – OS, Backup, etc
5. Database(s)
6. Backup and Fall-back processes and procedures
7. Security and Data Integrity – all security related to your solution
8. Communications – internally within the system and externally to external organizations
9. Training on Solution
10. Project Management and Ongoing Management (Post delivery of solution)
11. Rollout to Customer's Environment, including a detailed Gantt chart (120+ tasks)
12. Staffing for both the implementation of the project and its ongoing management
13. Organizational Impacts
14. Costs – including implementation and recurring costs
15. Support – including a draft SLA
16. Etc, etc

Hardware and Network: All additional solution specific hardware and network components for this project must be from recognised industry providers.

Software: It is expected that all recommended software would be off-the-shelf. Any non-off-the-shelf software would need to be justified and supported with high level specifications, including costings for development, installation and support.

Other Useful Information is on the next page:

"Profile" of the WOMBATS Rugby Project Client Manager (Your Tutor)

To give you an understanding of the "type" of role your tutor will be adopting, when assuming the part of the Client's Project Manager, I have given a rough outline of the role your tutor has been asked to play when being the customer.

The client:

1. Has somewhat limited IT/IS knowledge – but actually believes he/she has much more !
2. Is somewhat involved in the sport, but not deeply involved.
3. Has been employed by WOMBATS RUGBY specifically for this project.
4. Even though he/she may believe she/he knows all the answers, in reality may not.
5. Has considerable project management experience across several industries.

VIP NOTE: This is NOT the real skill sets of your tutor – just the role they will be adopting to give you the chance to experience a "real world" customer.

BTW – your tutor will have mainly 2 jobs – one as the Client Project Manager for this project (as described above) and secondly as your tutor to guide your team in the developing of your solution and report. Please note the emphasis is on guide – this should not be read as tell you how. You and your team are the decision makers in this project. The necessary knowledge should have already been acquired throughout your studies.

GENERAL RESEARCH RULES FOR THIS SUBJECT

Read Carefully …

- Research is restricted to information readily accessible from the Internet, library, journals, magazines, papers, or other public sources.
- DO NOT under any circumstances contact business or financial organisations (e.g., Verisign), sporting organizations /. Super Rugby franchises, etc, any Government Bodies, etc. This applies in Australia and outside Australia.
- Generally speaking all relevant information for this case study in relation to all components is either currently in use or is available via the Web or standard research avenues.
- When obtaining costs for your solution use advertised prices and salaries. If the only prices are in a foreign currency use a converter to convert the amount to Australian dollars (http://www.xe.com/ucc/)
- If your solution is proposing using software / hardware that is in beta stage …**then that's ok**. But it must exist and be referenced.

- NOTE: Any complaints received from industry (or abovementioned organisations) may be considered to be a breach of academic conduct and as such, may lead to the appropriate disciplinary action which may also include an appropriate deduction of marks.

------End of Report------