**Outcome 1(Worth 40 marks out of 100 for Unit 3)**

On completion of this unit the student should be able to analyse an information problem in order to produce software requirements specifications for a solution that operates within a networked environment

#### Western Districts Sports coaching services: (WDSCS):

WDSCS operates as a mobile business that provides coaching services for local sports personnel. The service specializes in catering to organising a coach/trainer for both individuals and teams.

The head office of the organisation is Ballarat based with operating hours usually being standard office times of 9.00am to 4.30pm in the afternoon when the office is closed to general enquiries. Due to the unusual nature of the work, the office is only usually open for Monday – Thursday as Friday and the weekends often involves clients or travelling to clients.

Andrew Tickner is the owner of this business and he holds a Degree in Business Management and is responsible for the small team of staff who have grown with him.

#### The staff employed by Andrew are:

* Peter, his business partner(mostly as a financier and silent partner);
* Louise, the administration specialist(experienced office manager);
* Amanda – Racket sports biomechanist and registered personal trainer
* Simon – Tennis professional and now full time pro coach
* Mick – Professional liaison with industry(Marketing and Legal).

#### Organisational Goals

To grow the business from a state based organisation to incorporate national and potentially international clients, perhaps even to manage some touring sports professionals(players).

An additional arm of the business being explored presently is the sponsorship role. Development of links with industry and various organisations that may be interested in increased sport exposure for their product to expand their markets.

#### Current ICT Use

Andrew operates in his office using a very simple networked environment. Due to the fact that Andrew has focussed his primary attention on his staff and building a solid client database, he has had little time to devote to the technology aspects of his business.

Presently, he utilizes a simple but effective system which incorporates a database of clients created on a spreadsheet developed by Andrew, a purchased payroll system and office records keeping system that Louise uses and is familiar with, together with a small but powerful IBM server that is configured to run Windows 2003 server software via a system modem/router. Backups are presently configured to run nightly on the server at midnight and are stored on a high density tape cartridge device.

Each of the staff have a laptop and mobile phone which they utilize as a portable hotspot for ‘back to base’ data exchange. Andrew has discussed with staff the possibility of adding a visual component for video conferencing and a camera for training purposes(of clients).

#### Current Procedures

When in the office, staff create and develop programs to meet the needs of clients. Typical planning includes contact with professional bodies attributed to the sports being played by the clients to obtain details of both satellite circuits for those at the sub-elite level and the professional circuits for the small number of full time touring professional clients which at this point includes a small number of Tennis, Badminton and Squash professionals.

Among the client database, are links to locally based sports development trainers who are qualified as both Certified trainers in their sport, as well as being First Aid qualified.

In simple terms Amanda, Simon and Mick rarely come to the office as their clients require that they be available for training sessions that may need them to be constantly mobile to access training venues. Mick spends lots of time trying to create new leads, contacts and business relationships whilst Amanda and Simon handle the bulk of training and programming development roles.

#### What is Required

Andrew wants to centralize the system to enable all trainers and staff to be able to transfer data remotely, reliably and efficiently but most importantly – securely!

He also wants to be advised of his computing system upgrade – does he need the power of a server which is currently a big power drain on the expenses list? Or, is there an alternative that he doesn’t know about?

Reports need to be able to be generated electronically, quickly and simply for quick strategic and tactical planning purposes. Summaries of the clients performances need to be accessible quickly and the option of quick connection to professional bodies would be desirable.

Summarily, Andrew wants a system that is reliable, effective and efficient so he can grow his business while keeping costs down to a reasonable level. He would also like to potentially grow his staff to meet a growing need for skilled trainers of developing locally talented athletes.

**Your Task**

Using the SRS template that has already been used in class, you are to create an SRS(Software Requirements Specification) that will cover the needs of the new required system for the above business.

**Key elements to ensure are covered in your SRS and solution are to include as a minimum**:

1. Table of Contents with links to the major sections of the document
2. Purpose
3. Scope(incorporate what ‘factors’ will influence this solution)
4. Use Cases including Use Case Diagrams correctly labelled
5. Any Hardware needs/recommendations
6. Any Software needs/recommendations
7. Functional and Non-Functional requirements of the solution(in the SRS)
8. Constraints that need to be taken into account when designing this solution
9. Data Flow Diagrams indicating data flows between related entities using the correct structures for DFD’s

Supplementary official information provided from Study Design for Information Technology for this outcome:

***Key knowledge***

This knowledge includes:

• stages of the problem-solving methodology

• key tasks associated with planning software projects, including identifying, scheduling and

monitoring tasks, resources, people and time

• a brief overview of the concept of the OSI model for network protocols

• purposes and functions of the physical layer (Layer 1) of the OSI and the relationship of the physical layer to the Transmission Control Protocol/Internet Protocol model

• appropriateness of interviews, surveys and observation as methods of collecting data to determine needs and requirements

• features of functional and non-functional solution requirements

• constraints that influence solutions

• the functions, technical underpinnings and sources of worms, Trojans and spyware that intentionally threaten the security of networks

• factors that determine the scope of solutions

• tools and techniques for depicting the interfaces between solutions, users and the network, including use cases, via the Unified Modelling Language

• features of context diagrams and data flow diagrams that allow data flows to be depicted

• composition of an SRS and purposes of documenting an analysis in this form.

***Key skills***

These skills include the ability to:

• identify the key tasks involved in planning software projects

• propose a range of methods to collect data for analysis

• describe the physical layer of networked environments within which the solutions will operate

• analyse data and information in order to determine the solution requirements, constraints including vulnerability to security threats, and scope

• apply tools and techniques to assist in analysing information problems

• write an SRS to document the requirements, constraints and scope.