

**School of Information Technology**

**FIT3047/8: Industrial Experience Project Part 1 and 2**

**Semester 1, 2016**

**Requirements Analysis Document**

**Scubaversity Mobile App**

**Client:** Mandy

Melanie

Scubaversity

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| --- | --- | --- |
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**Version:** 1

**Date:** 15 March 2016

**Amendment History**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Created/Amended By | Approved By |
| 1.0 | 15/03/2016 | Jess van der Byl |  |
| 1.1.1 | 29/03/2016 | Nick Whitaker |  |
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**Amendment Details**

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| --- | --- |
| Version | Amendment Details |
| 1.0 | Initial Draft created |
| 1.1.1 | Added Use case diagram template and also the Site map of: www.scubaversity.co.za |
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**Executive Summary**

This section always precedes the table of contents, so it is not included there.

The Executive Summary should provide a summary of the key points of the document. It should also include any relevant background information, the project approach/methodology, major benefits upon project completion and estimated completion date.

The objective of the analysis stage of the SDLC is to determine what is required by understanding, analysing and documenting both the existing system (if any), and what the client wants in the proposed system. In addition, this Analysis Document will also incorporate some high level design.

An existing system may not necessarily be a computerised system – it could be how they currently perform the tasks manually.

The documentation required in the Analysis document will depend heavily on the type of project being undertaken. You need to choose a modelling methodology that is useful in understanding the existing system and explaining the requirements of the proposed system.

The Analysis document, when signed off, becomes a contract between you and your client, defining the functionality that you undertake to provide.

This section should not exceed one page

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# Introduction

**About Scubaversity**Scubaversity or SV is a 5 star diving institution that is based in Roodepoort on Chestnut road. It is a small community that is part of Professional Association of Diving Instructors (PADI). They have been forming new divers for 23 years now and they are very well established in South Africa. There are several programs and course on offer which can be divided into 2 main groups. Firstly, an internship program, where they take in fresh high school graduates and form them into PADI professionals. Secondly they deal with the general public that are interested in diving or engaging in any form of scuba activity, for example free diving.  
The community is definitely one with great social diversity where everyone can join together over a common sport.

**Problem**

Upon interacting with the Scubaversity (SV) management, they voiced out their concern for a better communication platform for the membership system which they have in place at present. It was added that they wanted a way to implement the below mentioned features (These points need to be re-verified by SV):

* A way to keep members informed and manage membership.
* A way to keep the qualifying information about a diver and aid in their progression (if a course a member needs is coming up they are notified by the application).
* Trip information and details provided.
* Sales and special promotion information broadcasted easily.
* Social activities update given out.

Please note this information is only core ideas that will be expanded during the course of the project creation.

**Proposed solution**

Our proposed solution for the above issues is the creation of a mobile application for SV. We feel that since they already have a web site online the best next step to take is to give the users easier access to the system through handheld devices. We feel that with the convenience of a mobile device, there is an assurance that upon broadcasting, the information has a higher probability of being read as compared to other means like social media.  
The application will also monitor any member which needs a membership renewal by changing their status to “not active” (This is not the final idea, thinking more user friendly term) and inform them that they need to reactivate their account.

Furthermore, the diving qualification is stored directly onto the different accounts and also at SV’s central database. Despite the PADI (Professional Association of Diving Instructors) application having a similar feature, this will allow SV to have a more personal engagement in the divers’ education.  
Example: A diver that has just completed an OWD (Open Water Diver) course, can be notified with more convenience about the next AOWD (Advanced Open Water Diver) course and if there is any promotion available to the new diver.

Diver and non-diver members can be kept updated without the need to view the website. As the day approaches more information can be broadcasted. Hence any change or alternatives are known by all members.

In the event that SV has any promotion or sales on equipment or even courses available, the user would be made aware. Note: that it is unclear yet if we are to upload pictures with the notification or if we are going to use URLs to display the image through browser or other means.

Similarly to the above mentioned proposed solution the social event update will be to keep all members up to date on any event that will occur. Giving them an option to set their social intent to “Attending” “Maybe next time ;)” “Thinking about it”. Note: this is also just a proposed idea and might not be part of the final application but might be similar.

# Existing System

Scubaversity currently has a manual system that keeps track of existing and new memberships. Website that allows access to the calendar and the ability to register or log in, this records the user’s details. When logged in the user can edit their details. They have a database that records the details for the members of Scubaversity when they register.

## Data/Process Flow Diagram OR Use Case Diagram

*(Change the name of this section so that it reflects the diagram used.)*

The aim of these diagrams is to understand how the client currently performs the tasks and processes relevant to the project scope. If the system is new to the client’s business, focus on the business needs identified.

Each diagram should have:

* a short description to explain what the diagram is clarifying;
* a text description of what occurs in the process/use case;
* a discussion of inputs and outputs that interact with the process/use case.

Depending on the number of business processes you are analysing, you may have more than one diagram here.

|  |  |
| --- | --- |
| **Use case: Sign up** | |
| **ID:** |  |
| **Brief description:** | |
| **Primary actors:** | |
| **Secondary actors:** | |
| **Preconditions:** | |
| **Main flow:**   1. **See flow diagram…** | |
| **Postconditions:** | |
| **Alternative flows:** | |

## Site Map

*(Change the name of this section so that it reflects the name of the diagram used.)*

Provide an appropriate diagram to represent the structure of the functions within the existing system.

[**www.scubaversity.co.za**](http://www.scubaversity.co.za) **Site Map:**

* [**1 - Home**](http://evewebnet.com/ScubaVersity_S32457/)
* [**2 - Courses**](http://evewebnet.com/ScubaVersity_S32457/page/courses)
  + [**2.1** - Try diving](http://evewebnet.com/ScubaVersity_S32457/page/try_diving)
  + [**2.1.1** - Discover scuba](http://evewebnet.com/ScubaVersity_S32457/page/discover_scuba)
  + [**2.1.2** - Bubblemaker](http://evewebnet.com/ScubaVersity_S32457/page/bubblemaker)
  + [**2.2** - Scuba diving courses](http://evewebnet.com/ScubaVersity_S32457/page/scuba_diving_courses)
  + [**2.2.1** - Ultimate open water diver](http://evewebnet.com/ScubaVersity_S32457/page/ultimate_open_water_diver)
  + [**2.2.2** - Scuba diver](http://evewebnet.com/ScubaVersity_S32457/page/scuba_diver)
  + [**2.2.3** - Advanced open water diver](http://evewebnet.com/ScubaVersity_S32457/page/advanced_open_water_diver)
  + [**2.2.4** - Rescue diver](http://evewebnet.com/ScubaVersity_S32457/page/rescue_diver)
  + [**2.2.5** - Emergency first response](http://evewebnet.com/ScubaVersity_S32457/page/emergency_first_response)
  + [**2.2.6** - Padi reactivate](http://evewebnet.com/ScubaVersity_S32457/page/reactivate_your_diving)
* [**2.3 -** Specialties](http://evewebnet.com/ScubaVersity_S32457/page/specialties)
  + [**2.3.1** - Night diver](http://evewebnet.com/ScubaVersity_S32457/page/night_diver)
  + [**2.3.2** - Padi shark speciatly](http://evewebnet.com/ScubaVersity_S32457/page/padi_shark_speciatly)
  + [**2.3.3** - Aware fish id](http://evewebnet.com/ScubaVersity_S32457/page/aware_fish_id)
  + [**2.3.4** - Peak performance buoyancy](http://evewebnet.com/ScubaVersity_S32457/page/peak_performance_buoyancy)
  + [**2.3.5** - Master scuba diver rating](http://evewebnet.com/ScubaVersity_S32457/page/master_scuba_diver)
  + [**2.3.6** - Deep diver](http://evewebnet.com/ScubaVersity_S32457/page/deep_diver)
  + [**2.3.7** - Enriched air diver](http://evewebnet.com/ScubaVersity_S32457/page/enriched_air_diver)
  + [**2.3.8** - Equipment specialist](http://evewebnet.com/ScubaVersity_S32457/page/equipment_specialist)
  + [**2.3.9** - Search and recovery diver](http://evewebnet.com/ScubaVersity_S32457/page/search_and_recovery_diver)
  + [**2.3.10** - Wreck diver](http://evewebnet.com/ScubaVersity_S32457/page/wreck_diver)
* [**2.4 - Recreational professional courses**](http://evewebnet.com/ScubaVersity_S32457/page/recreational_professional_courses)
  + [**2.4.1** - Padi divemaster](http://evewebnet.com/ScubaVersity_S32457/page/padi_divemaster)
  + [**2.4.2** - Emergency first response instructor](http://evewebnet.com/ScubaVersity_S32457/page/emergency_first_response_instructor)
  + [**2.4.3** - Instructor development course](http://evewebnet.com/ScubaVersity_S32457/page/instructor_development_course)
  + [**2.4.3.1** - Padi assistant instructor](http://evewebnet.com/ScubaVersity_S32457/page/assistant_instructor)
  + [**2.4.3.2** - Padi owsi](http://evewebnet.com/ScubaVersity_S32457/page/open_water_scuba_instructor)
  + [**2.4.3.3** - Specialty instructor](http://evewebnet.com/ScubaVersity_S32457/page/specialty_instructor)
  + [**2.4.3.4** - Padi msdt](http://evewebnet.com/ScubaVersity_S32457/page/master_scuba_diver_trainer)
  + [**2.4.4** - Master instructor](http://evewebnet.com/ScubaVersity_S32457/page/padi_master_instructor)
  + [**2.4.5** - Padi idc staff instructor](http://evewebnet.com/ScubaVersity_S32457/page/idc_staff_instructor)
* [**3 - Swim**](http://evewebnet.com/ScubaVersity_S32457/page/swimversity)
  + [**3.1** - Swimversity registration](http://evewebnet.com/ScubaVersity_S32457/page/swimversity_registration)
  + [**3.2** - Swimversity swim school](http://evewebnet.com/ScubaVersity_S32457/page/swimversity_swim_school_prices)
* [**4 - Calendar**](http://evewebnet.com/ScubaVersity_S32457/page/calender)
  + [**4.1** - Scubaversity 2016 calendar](http://evewebnet.com/ScubaVersity_S32457/page/scubaversity_2016_calendar)
* [**5 - Trips**](http://evewebnet.com/ScubaVersity_S32457/page/dive_trips)
  + [**5.1** - Mozambique](http://evewebnet.com/ScubaVersity_S32457/page/mozambique_february_2016)
  + [**5.2** - Aliwal shoal](http://evewebnet.com/ScubaVersity_S32457/page/aliwal_shoal)
  + [**5.3** - Sodwana](http://evewebnet.com/ScubaVersity_S32457/page/sodwana)
  + [**5.4** - Red sea scuba trip](http://evewebnet.com/ScubaVersity_S32457/page/red_sea_trip)
* [**6 - Careers**](http://evewebnet.com/ScubaVersity_S32457/page/blue_ocean_career_program)
* [**7 - Gallery**](http://evewebnet.com/ScubaVersity_S32457/page/galleries)
  + [**7.1** - Images galleries](http://evewebnet.com/ScubaVersity_S32457/page/images_galleries)
  + [**7.2** - Videos](http://evewebnet.com/ScubaVersity_S32457/page/videos_gallery)
* [**8 - News**](http://evewebnet.com/ScubaVersity_S32457/page/blog)
* [**9 - About us**](http://evewebnet.com/ScubaVersity_S32457/page/about_us)
* [**10 - Contact**](http://evewebnet.com/ScubaVersity_S32457/page/contact)

## Database

If the existing system interfaces with a database, provide an overall description of it that includes the name of the database (e.g., acme\_v3.mdb), the DBMS (e.g., MSAccess), its purpose, and any other relevant information.

Holds customer information, +6000 entries. No relationships or cardinality currently built-in.

### Data Structure Diagram

Draw a Data Structure Diagram (DSD) of the existing database. Remember to include a Legend to identify Primary Key and Foreign Key formats used in the DSD.

## Platform Issues

* No interaction with the users, physical newsletters as opposed to digital newsletters, etc.
* No mobile support for the website.
* Hard to manage memberships manually.

# System Requirements Specification

This is a **mandatory** section that details the initial, overall requirements of the application you will be developing. It includes a detailed description of the functional and non-functional requirements of the proposed system.

The System Requirements Specification will be used during the testing of the construction and implementation phases and to check that the requirements of the client were fulfilled. The System Requirements Specification will also be used to assess the percentage of completion of the final project.

# Proposed System

This is a **mandatory** section and will include the diagrams most applicable to your project.

## Scenarios, Models and Functionality

The aim of these diagrams is to help all stakeholders understand how the client will interact with your application.

Each diagram should have a short description to explain what it is clarifying as well as supporting descriptions of the modelling elements within the diagram where applicable.

It is suggested you document the proposed system using **EITHER** of the following modelling techniques.

**UML:**

If using this method, you must include the appropriate:

* Use Case Diagrams with detailed specifications of all use cases.
* Activity Diagrams and Class Diagrams (plus any other UML diagrams you feel are required to fully document the proposed system design)

**OR**

**Structured Analysis:**

If using this method, you must include the appropriate:

* Data Flow Diagrams or Process Flow Diagrams (or combination)
* Process/Flow Descriptions for each object in the Data Flow Diagrams

### Database

This section only needs to be included if the client requires a database.

#### Data Structure Diagram

Create a DSD of the proposed system. Remember to include a Legend to identify Primary Key and Foreign Key formats used.

#### Data Dictionary Forms

Describe every entity in your proposed DSD in the table below.

|  |  |
| --- | --- |
| **Entity Name** | **Description** |
|  |  |
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# Requirements Matching

This section matches each requirement for the proposed system to the functionality described, and is a summary of the details listed in the System Requirements Specification section.

It may be useful to develop a “dysfunctional prototype” in the form of an interactive or animated walk‑through that only shows menu items and options available to the user to demonstrate how the functionality the system will provide matches up with the requirements specified by the client.

# Development Specifications

This section needs to provide a complete description of what you will use to develop the proposed system.

## Tools and Techniques

Identify the programming language(s) that you will be using to develop the system, and provide a description of:

* the development environment (operating system, SDKs, compilers, runtime‑environments);
* any development tools you will be using (GUI or Report Generators, third‑party libraries, CASE tools);
* the DBMS (e.g. MSAccess, MySQL) that you will be using for development – be sure to specify if this is the same as or different from the DBMS that will be used in the production environment.

## Dependencies

This section should include minimum version numbers for operating systems, runtime environments, compilers, DBMS, and any other third‑party components the production system will depend on.

## Platform Limitations

Discuss any limitations related to the production environment for the proposed system, and provide a set of hardware and network specifications that will be expected to guarantee satisfactory performance. Version numbers of device drivers may be relevant.

# Analysis Signoff

Please do not give this to client's to sign until it has been marked and approved by university staff.

It is agreed between **Client Organisation Name** and **Monash University** that this Analysis Document for the Project Name that will be created for the client by:

|  |  |
| --- | --- |
| Team Member | Student\_ID |
| Team Member | Student\_ID |
| Team Member | Student\_ID |

* has been read and reviewed by the client and supervisor;
* shows that the students have a clear understanding of the requirements of the project;
* clearly outlines the functionality requirements of the application in the System Requirements Specification.

Dated this ddth day of mmmm 20yy

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signed by Client Contact for and on behalf of Client Organisation Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signed by Project Team member Team Member |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signed for and on behalf of Monash University by the team’s Project Supervisor, Name | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signed by Project Team member Team Member |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signed by Project Team member Team Member |

# Appendix A: For Internal Use

This part is meant for your supervisor. Your client may or may not be interested in it – if they are interested, there is no problem in passing it to them *as a separate document.*

## Document Work Breakdown

Include a table that identifies the team member(s) responsible for each section within this document. For example:

| Section | Lead Author(s) |
| --- | --- |
| Executive Summary | Team Member, Team Member |
| 1. Introduction | Team Member |
| 2 Project Scope | Team Member, Team Member |
| 2.1 Business Justification | Team Member |
| 2.2 Scope Statement | Team Member |
| …etc… | …etc… |