

Software Requirement Specification Document

For "Fun & learn Nursery"

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1 Introduction

1.1 Purpose of this document

The Purpose of this document is to contain the complete software requirements for our Nursery Management System (NMS) for a Nursery called "Fun & Learn" and set the requirements both functional and none functional and describes the design decisions, architectural design and the detailed design needed to implement the system, the audience intended by this document is the customer and the Professor supervising this course.

1.2 Scope of this document

This Document targets the customer as our audience. some of the constraints that are placed on the team are the schedule, this document specifically defines the functional and non functional requirements derived by the development team. This document also aims to assists future developers and designers understand our project and work.

1.3 Overview

The system is supposed to provide a fast way of running the customer's nursery without the customer relying on pen-and-paper method of keeping data and storing information. The System shall be available to store all data necessary that is entered by Admins, Teachers and Users successfully and in an organized form, The System shall be designed to be child-friendly, it shall also perform reliably and accomplish the tasks assigned to the functionalities delivered,it must therefore be designed and implemented to ensure that the system always meets these requirements.

1.4 Business Context

This project should provide the basic needs for any small nursery from schedules to online admissions, it also aims to simplify the process of accepting new

students, new teachers, editing their information and quickly search through a lot of data that would usually take a lot of time to go through if it's done by the pen-and-paper method, which also means that the customer should have a place to store data, and interface that makes it easier for him/her to surf, search and edit all the data stored which should save time and money, and is also provides an interface for new users or already subscribed users and integrates the two sides so that the back-end users such as admins, teachers or otherwise can view the data being sent over the website such as admissions and if all of the above is accomplished then it will increase the overall throughput of the nursery itself.

2 General Description

2.1 Product Functions

The general functionality of our system is to provide an easier way for the customer to accomplish tasks quickly and with no paperwork delays, we also use a specific module that helped us accomplish the tasks needed such as user manipulation module which assists in adding, editing, and deleting all the data related to every user whether that user is an admin or client.

2.2 Similar System Information

1) Kompass Nursery:



- Pros:

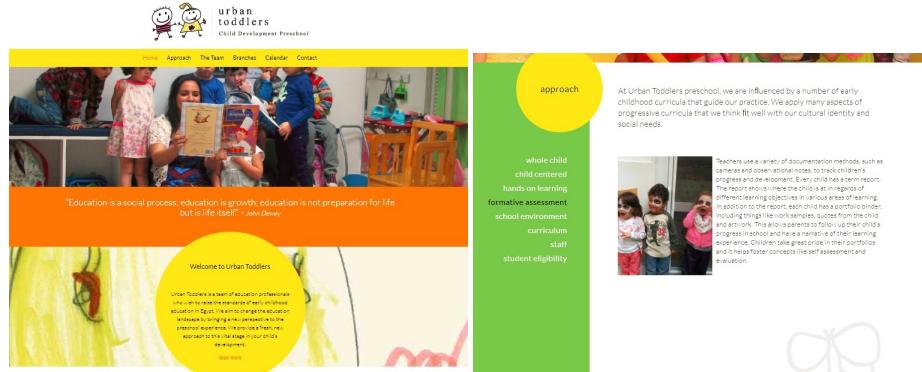
- The website covers everything in the nursery.
- The navigation between the pages is clear.
- It has all the information the parent needs to know.

- Cons:

- The design is very basic and the paragraphs are written in a bad font which makes it hard to read.
- The Online application doesn't gather enough information about the children nor the parents.

- There isn't a schedule with the working hours of the nursery.

2) Urban Toddlers Nursery:



• Pros:

- The design is very cheerful and child-friendly.
- It provides the parents with everything they need to know about the nursery.
- The website is very well organized.

• Cons:

- The font is bad and almost nothing is Capitalized.
- The website isn't well organized.
- There isn't a schedule with the working hours of the nursery.

3) Papillons Nursery:



- Pros:
 - The website's pages are well organized.
 - The design is not bad, but it's pale.
- Cons:
 - Once the website is opened a song plays automatically and that is not very convenient.
 - The tabs make weird sound effects when you hover over them or click them.
 - There isn't enough information about the classes.
 - There isn't an online application to apply for the children.

What makes our system different from other systems?

- Our system offers a complete Online Enrollment Application that covers everything a nursery needs to know about every child that applies for our programs. We also offer an Online application for those who want to apply for a job to join the Fun & Learn family.
- Our design is friendly full of cheerful colors and we chose a friendly smooth font since it's concerned with children.
- Our system doesn't require a "Login" which makes it easier for the parents to access the website's pages. It also should have serial number login for the teachers to access their side of the website.

2.3 User Characteristics

The user community is composed of 2 major roles: Admin,Clients both of which are expected to have basic expertise in computers and how to deal with website navigation and to know English, and these users are:

- 1) Admins: They're expected to understand the full extent of the system being delivered to them, they're expected to know how to manage the privileges granted to them so they're expected to have a fair amount of expertise in order to be able to manage the website well , since they don't have a developer on-hand.
- 2) Clients: Clients are not expected to have any technical expertise, since they deal with a very simple user interface designed to provide them with the basic information that they need without the need of any technical.

2.4 User Problem Statement

The problem that the Client originally had was that they did not have any software structure to support their growing community, they handled everything on paper and posted all their news via social media. They sometimes lost the

papers containing the information which soon lead to the occasional loss of data, not to mention the grunt work it took to fill these massive forms out by hand, so the original problem was that they wanted to consolidate everything inside one software structure so they could have everything organized in said structure, they also wanted simple user interface for admins, and parents to deal with, which we aim to create; A software that consolidates all their data and makes them able to post their news on the website rather than social media.

2.5 User Objectives

The user had a simple "wish list" listed below of things they wanted in the system:

1. The Client wanted a reliable system.
2. The Client wanted a fast that can accomplish tasks quickly.
3. A Newsletter page, that contains anything related to the nursery.
4. An Events page, that contains any data related to any upcoming event including the time, date, location and price, if applies.
5. An admin login page.
6. An User login page.
7. A welcome page.
8. A Design appropriate for children.
9. Online Admission Application for both New Teachers, New Clients.
10. An About Us containing their vision and mission .
11. A Contact Us containing contact information.
12. A Gallery Page.
13. A footer containing contact information.
14. Pages containing annual offers and packages.
15. A Curriculum page,containing their current curriculum .
16. 2 pages responsible for adding, editing, deleting and searching through Users.
17. 2 pages responsible for adding, editing ,deleting and searching through Teachers.
18. They also wanted the parent to be able to observe their child's day to day activities

2.6 General Constraints

Some of the constraints we faced were the internet speed which was fairly low, Maintainability which we had to make sure was a key aspect of our design, architecture and implementation, we also had to make sure the system was portable to make sure anyone can use and access the system, and Re-usability in which we had to identify the parts of our code or the parts of the Re-usable code we managed to find was being Re-used in order to accomplish as many tasks as possible

3 Functional Requirements

3.1 Online Application for children

3.1.1 Description

The Customer wanted a page that could be used to collect information on parents wanting to admit their children into the nursery

3.1.2 Criticality

Critical 10/10

3.1.3 Technical Issues

N/A

3.1.4 Cost & schedule

N/A

3.1.5 Risks

Parents could fail at dealing with this page due to how large and extensive it is, and sometimes would rather just go to the nursery themselves

3.1.6 Dependencies with other requirements

This page is highly dependent on the page called "User ADD" on the admin side, which allows the admin to see the new user's information and accept or deny or keep their request pending

3.2 Teacher Registration

3.2.1 Description

The Customer wanted a page that could be used to collect information on teacher wanting to apply for job opening in the nursery.

3.2.2 Criticality

important 8/10

3.2.3 Technical Issues

N/A

3.2.4 Cost & schedule

N/A

3.2.5 Risks

N/A

3.2.6 Dependencies with other requirements

This page is highly dependent on the page called "Teacher Acceptance" on the admin side, which allows the admin to see the new teacher's information and accept or deny or keep their request pending

3.3 About Us

3.3.1 Description

The Customer wants a page containing all the information about them including their history and some of what they have as a "Mission" and "Vision" .

3.3.2 Criticality

important 6/10

3.3.3 Technical Issues

N/A

3.3.4 Cost & schedule

N/A

3.3.5 Risks

N/A

3.3.6 Dependencies with other requirements

This page is highly dependent on the page called "Teacher Acceptance" on the admin side, which allows the admin to see the new teacher's information and accept or deny or keep their request pending

3.4 Make Contact information

3.4.1 Description

The Customer wanted a footer in all pages containing the nursery's contact information.

3.4.2 Criticality

Trivial 4/10

3.4.3 Technical Issues

N/A

3.4.4 Cost & schedule

N/A

3.4.5 Risks

N/A

3.4.6 Dependencies with other requirements

N/A

3.5 Generate Schedule

3.5.1 Description

The Customer wants a page containing all the information regarding the schedule for both the senior children (above 2 1/2 years) and junior children (Below 2 1/2 years old).

3.5.2 Criticality

important 6/10

3.5.3 Technical Issues

N/A

3.5.4 Cost & schedule

N/A

3.5.5 Risks

N/A

3.5.6 Dependencies with other requirements

N/A

3.6 Gallery

3.6.1 Description

The Customer wants a page containing Pictures of the children.

3.6.2 Criticality

mundane 2/10

3.6.3 Technical Issues

N/A

3.6.4 Cost & schedule

N/A

3.6.5 Risks

N/A

3.6.6 Dependencies with other requirements

N/A

3.7 Events

3.7.1 Description

The Customer wants a page containing all the information regarding any upcoming events .

3.7.2 Criticality

mundane 2/10

3.7.3 Technical Issues

N/A

3.7.4 Cost & schedule

N/A

3.7.5 Risks

N/A

3.7.6 Dependencies with other requirements

N/A

3.8 Teacher Acceptance

3.8.1 Description

The customer requested a page to view only the "pending" applications, and to be able to search by the name of the applicant.

3.8.2 Criticality

Importance 8/10

3.8.3 Technical Issues

We didn't face any technical difficulties so far

3.8.4 Cost & Schedule

N/A

3.8.5 Risks

The admin needs to know how to navigate this page well.

3.8.6 Dependencies with other requirements

This page is highly dependent on the page called "Teacher Registration" on the User side, which allows the teacher to submit their information regarding the job opening.

3.9 User Add

3.9.1 Description

The Customer wanted a page that could be used to display the information on parents wanting to admit their children into the nursery which allows the admin to see the new user's information and accept or deny or keep their request pending

3.9.2 Criticality

important 8/10

3.9.3 Technical Issues

N/A

3.9.4 Cost & schedule

N/A

3.9.5 Risks

Admins needs to know how to navigate this page.

3.9.6 Dependencies with other requirements

This page is highly dependent on the page called "Online Application" on the user side, which allows the admin to see the new user's information and accept or deny or keep their request pending

4 Interface Requirements

This section describes how the software interfaces with other software products or users for input or output.

4.1 User Interfaces



4.1.1 GUI



1. In the first picture the parent enters the Child's name, the date of birth, current age and the desired age of entry, father's name, his mobile number, his Facebook account, his occupation and his workplace's phone number.
2. 2nd picture: the mother's name, her mobile number, her Facebook account, her occupation, her workplace's phone number, then the Marital

Status of the parents, home phone number, home address and who will be picking up the child.

3. 3rd picture: it shows the attendance options, the parents can choose which option suits them. Then there's the part of the Emergency contact information; it requires their name, mobile number, address and their relationship with the child. Last but not least the parent has to specify if their child has any special needs(health problems, medications, food dislikes, etc...).
4. 4th picture: contains the Nursery's regulations and the date of the submission.
5. 5th picture: contains what needs to be sent with the child and the registration papers, and a Submit button to submit the application.

The image consists of three separate screenshots of a web-based application form. The first screenshot shows fields for 'Full name', 'Date of birth' (with a placeholder 'mm-yyyy'), 'Nationality', 'Home address', 'Mobile number', 'Public number', and 'Marital status' (with options 'Single', 'Married', 'Divorced', and 'Widowed'). The second screenshot shows sections for 'Education Qualifications with Dates' and 'Professional Qualifications with Dates', each with dropdown menus for 'Qualification' and date pickers for 'Start Date' and 'End Date'. It also includes fields for 'Present Employer's Name', 'Present Employer's Address', and 'Present Employer's phone number'. The third screenshot is a summary or conclusion page with fields for 'Current or last salary' and 'Required salary', and a large text area asking 'Have you been interviewed recently at other nurseries? If yes, please mention names.' Below this is a 'Submit' button.

1. This is a job application for those who want to work in the Nursery, first the applicant has to enter their full name, date of birth, nationality, home address, phone number, mobile number(s) and their marital status.
2. 2nd picture, asks the applicant to enter his/her qualifications and the dates, their current employer's name, employer's address, employer's number, their current or last salary and their requested salary.
3. Last picture asks them if they were interviewed by other nurseries recently and if their answer is "yes" then they must enter the names of these nurseries. Also they're asked about their point of view on how an ideal nursery should be regarding the academic side.

Describes the graphical user interface if present. This section should include a set of screen dumps or mockups to illustrate user interface features. If the system is menu-driven, a description of all menus and their components should be provided.

5 Performance Requirements

The system was expected and required to consume as little memory as possible and it was also required to be quick enough to perform reliably.

6 Design Constraints

We had a an obvious constraint to deal with which was the Internet speed that they have inside the Nursery is fairly low.

7 Other non-functional attributes

These are the Main Non-functional Requirements in our system

7.1 Reliability

The software would need to be reliable due to the fact that it ,at some point, will contain most of the nursery's vital information which means it has to remain reliable at all times, the website should also be able recover after any emergency.

7.2 Maintainability

In order to maintain any data coming our way no matter how big, we built tables and structures in our storage to be absolutely sure that all the data remains well organized and normalized, we also used an EAV model to manage the payment options, and multiple look up tables which help in increasing the overall response speed from the storage and keeping the data normalized.

7.3 Portability

The Software is uploaded on a website and thanks to the protocols that govern all websites the website can be accessed from anywhere, at anytime and from any device no matter what operating system is being used.

7.4 Re-usability

Up until now we did not use any COTS programs.

8 Preliminary Object-Oriented Domain Analysis

8.1 Class descriptions

The class diagram includes the structure of the Nursery system, it starts with a class called main which holds the main data of the user and is linked to the application status class that checks the status of every application coming from the parent and teacher after registering(registerapplication) and the admin receives those applications and gets the ability to accept/decline or leave it pending in the application status class ,also there are 3 used interfaces one for the admin login, one for the admin commands called(IAdminModify) and last the i paid

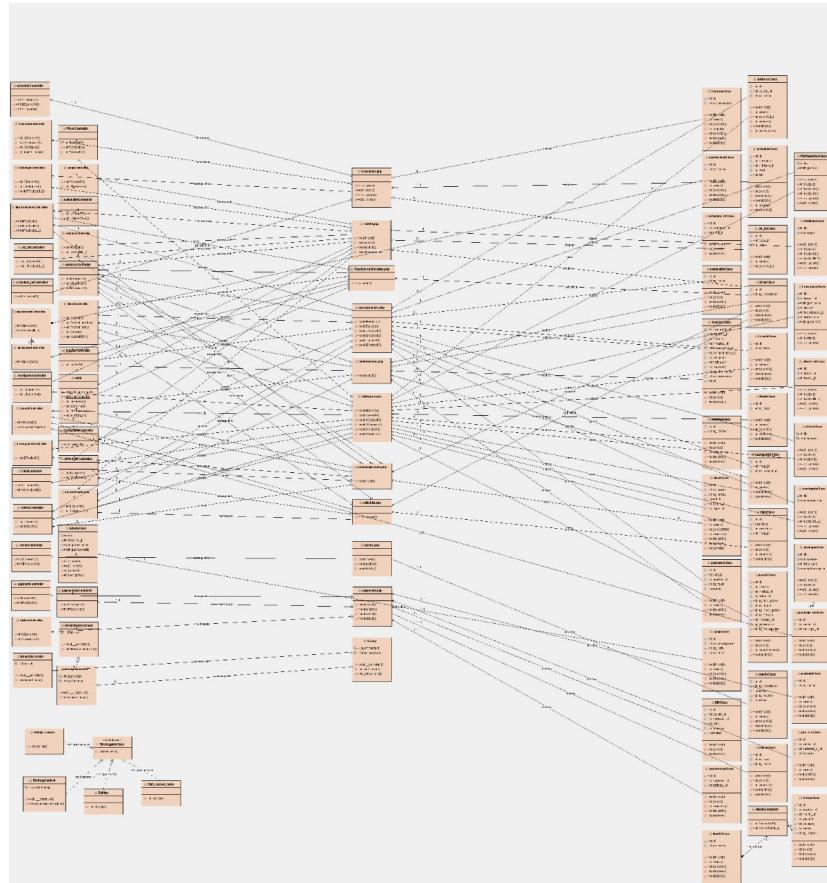


Figure 1: Class Diagram

which focuses on the salary of both Teacher and Admin ,also there is (payment,paymentOptions,optionsValue,Bill) classes implements for the parent to pay and there is other extra classes that aids the system like(page,language,error and word) and some of the user attributes were disconnected and made classes like(address,nationality,usertype,dateofbirth) and finally classes that are related to the user like (attendance,schedule,userattendancespecification,schedule int,emergency services).

Each class description should confirm to the following structure:

8.1.1 Class name

Abstract or Concrete: concrete:Schedule concrete:Parent concrete:Teacher concrete:Admin concrete:Payment concrete:Emergency Services

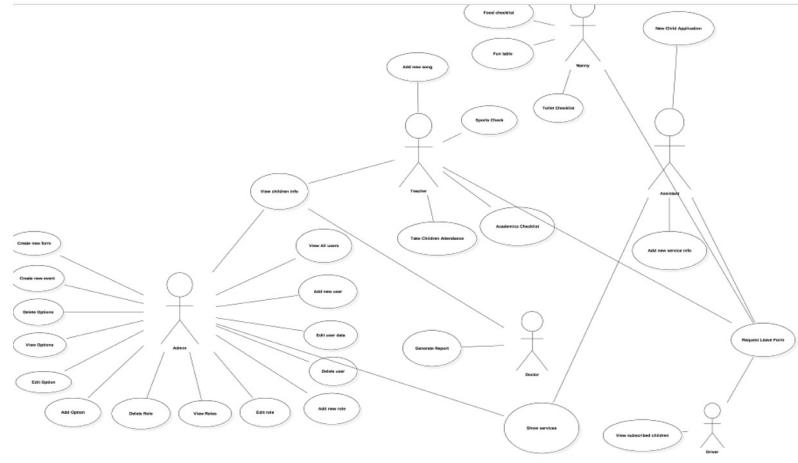


Figure 2: Use Case Diagram

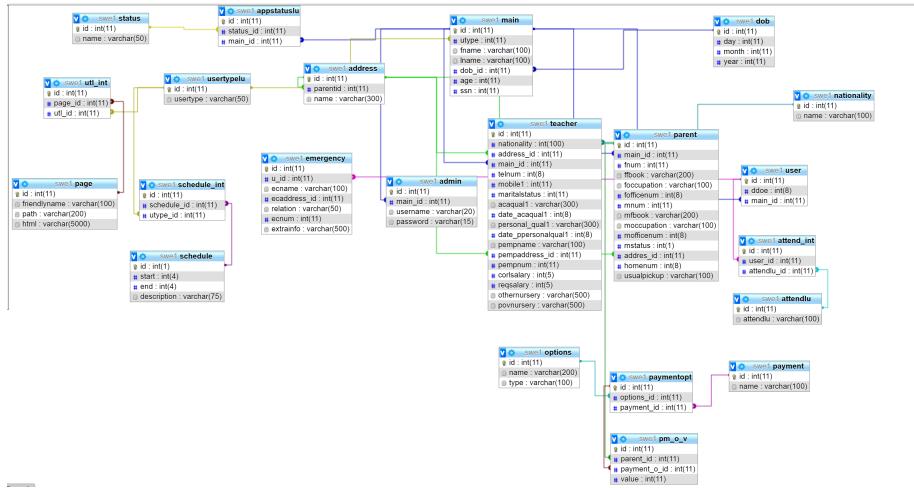


Figure 3: Database

8.1.2 List of Superclasses:

User Class

8.1.3 List of Subclasses:

Admin, Teacher, Parent

8.1.4 Purpose:

- User's purpose:to define a role of a character in the system
- Teacher's purpose:to help the child in the nursery
- Admin purpose:to manage the nursery from top
- Parent's purpose:to register an application for his/her child
- Payment's purpose:to give the ability to the parent to pay and save his/her transactions
- Schedule's purpose:to store and modify and view the schedule of the nursery
- Salary's purpose:to give the ability to pay to the staff
- Attendance's purpose:to save and store the attendance of each user
- Bill's purpose:to show the transaction made by the parent
- Application Status's purpose:to show the admin the number of applications and their status
- Main purpose:to store the main attributes of the user and link all of his classes together
- Error's purpose:to show error and manage them for the admin
- Page's purpose:to store every HTML page in the system
- Language's purpose:to translate every page to any language

8.1.5 Collaborations:

- Bill needs to interact with payment,payment options,payment options value
- language needs to interact with page,word
- status needs to interact with registerapplication,parent,user
- Ipaid needs to interact with admin
- Ilogin needs to interact with admin
- IadminModify needs to interact with parent,user,teacher,status,salary,page,attendance
- Language needs to interact with user
- Address needs to interact with user
- Attendance needs to interact with user attendance specification,admin
- User needs to interact with main

8.1.6 Attributes:

String:Fname-Lname-telnum-officenum-Password-utype-emname-pickupname-TimeStart-fb-Description-maritalstatus-status-qualifications-billname Int:Age-emnum-start-end-day-month-year Float:Quantity-Price-reqlsalary-corlsalary-billamount

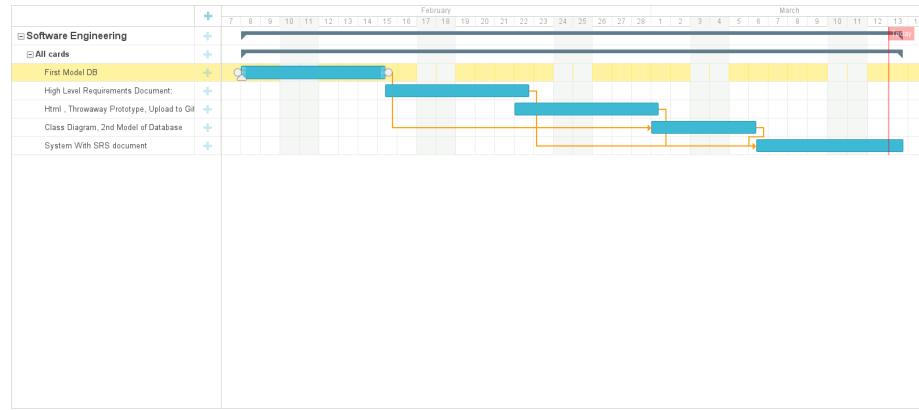
8.1.7 Operations:

Add-Modify-Delete-list-save-Register application-Accept application-decline application-give Salary-accept teacher

9 Operational Scenarios

The user will go on to "http://www.funandlearn.ga/" there he will find a navigation menu appearing when they press on the icon on the top left (the icon is 3 lines ontop of each other) from there, the user can go to the bottom and there s/he will find the footer, and from the navigation menu an "About US page" containing the mission and vision and 2 separate application form, one called "Online Application", which once clicked opens the application for parents who are trying to admit their children into the nursery", and another called "Teacher Registration" which allows any teacher applying for a job to submit their CV information so it can be viewed by the admin and in both cases its up to the admin to accept these applicants or not

10 Preliminary Schedule Adjusted



This is the GANTT charts of our project.

11 Preliminary Budget Adjusted

Our Budget was only limited to the funds needed for the already owned Internet connection

12 Definitions, Acronyms, Abbreviations

- EAV Model : Entity Attribute Value Model
- Already subscribed members : people who already filled out the form and got accepted
- back-end : Admin side
- Modules : They are instances containing multiple elements
- consolidate : To gather all the data in one place

13 References

- Kompass Nursery: http://www.kompasseducation.com/cms.php?id=landing_page
- Urban Toddlers Nursery: <http://urbantoddlers.com/>
- Papillons Nursery: <http://www.papillons-nursery.com/>