Sunny Side

Day Care

System Requirements Specification

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1. Introduction

This document describes the guidelines used by system being developed for managing Day Care activities, called Sunny Side Day Care, to establish standard requirement documents, requirement types, attributes, and traceability. It confines general strategy behind the project and serves as resource for all persons participating in this project.

1.1 Purpose

The purpose of Sunny Side Day Care is to provide a complete tech-influenced solution for managing day to day small and big activities performed at a Day Care. From keeping track of children and employees to managing monetary transactions occurring for goods purchased.

1.2 Scope

This plan provides guidelines to developers, designers and analysts involved in developing the project.

1.3 Definitions, Acronyms and Abbreviations

- Child: The enrolling child in the Day Care.
- Parent: The parent of the enrolling child.
- Guardian: The person in place of parent when parents of child are unavailable.
- Administrative Staff Member: Staff members like the baby-sitters appointed, manager, etc.
- General Staff Member: Staff members like janitor, driver for transportation facility, security guards, etc.

1.4 References

- What is a Day Care (Wiki) http://en.wikipedia.org/wiki/Day_Care
- Baby Sitting (Wiki) http://en.wikipedia.org/wiki/Babysitting
- Operating a Day Care Center (PowerHomeBiz.com) http://www.powerhomebiz.com/vol40/daycare3.htm
- KidZee Preschool http://www.kidzee.com/

1.5 Overview

This document contains specific details and strategies for managing the requirements for Sunny Side Day Care. It also details how requirements are organized and administered within the project, and describes how requirements will be identified, assigned attributes, traced and modified. It specifies milestones to be reached and standards to be adhered.

2. Requirements Management

2.1 Organization, Responsibilities and Interfaces

The following list of roles defines *who is what* in the system. It clarifies their part of responsibility in the development and usage of the system.

2.1.1 Customer

A person or an organization who takes financial responsibility for the system. This may not be the end-user in a large system.

2.1.2 User

A person who will use this system.

2.1.3 Stakeholder

The person or an organization, who is monetarily or materially affected by the outcome of the system.

2.1.4 Project Manager

The person who has overall responsibility for the development of the project. The project manager is responsible for the scheduling and allocation of the various tasks during the development of the project.

2.1.5 Quality Assurance

The function of Quality Assurance is the responsibilities of Project Manager and is responsible for ensuring that project standards are correctly followed by all project staff.

2.1.6 Developer

A person responsible for developing the required functionality in accordance with given requirements using project-adopted standards and procedures.

2.1.7 Team Leader

The team leader is the intermediate between project management and developers. The team leader is responsible for ensuring that a task is allocated and monitored to completion.

2.1.8 Configuration manager

The configuration manager is responsible for setting up the product structure in the Change Management system, for defining and allocating workspaces for developers, and for integration. The configuration manager also extracts the appropriate status and metrics reports for the project manager.

2.1.9 Requirements Specifier

The requirements specifier details the specification of a part of the system's functionality by describing the requirements aspect of one or several use cases and other supporting software requirements.

2.2 Tools, Environment and Infrastructure

Following tools are used for the development of Sunny Side Day Care.

Tool	Description	Website
Rational RequisitePro	For Managing Requirements	http://www-01.ibm.com/software/awdtools/reqpro/

3. User Categories

3.1 Identified Users

Identified users are the class of users that can access the data processed and stored in the system. The data stored is administered by the Day Care centre director, while other user classes (Staff members, parents, accountants) have certain privileges for accessing the data.

The system has three key factors that deal with the data flow of the system, Day Care centre director, staff members and parents of the children enrolled.

3.2 Access Privileges

It is important to have a control over who can access the data, without which, integrity and security of the data can be hindered. Certain users that belong to the system may have only certain level of access to the information. Following is the overview regarding designation of the privileges.

- **Day Care Centre Director:** Administer the system (Highest privilege).
- **Baby-Sitting Staff:** Access/manipulate enrolled children information.
- **Accountant:** Access/manipulate information related to monetary transactions.
- **Parents:** Access data related to their child and activities being performed at day care.

3.3 Profile/Information Security

Once the system is implemented and information is stored, it is crucial to have the information and details regarding the children safe. Since sensitive data like birth information, health related information, etc. for each child is stored in the system.

On the other hand, monetary transactions and details regarding salaries and other expenses should be safe and not accessible by unauthorized users. Unauthorized access to such information can lead to severe consequences. Security not only means to secure the information from unauthorized access, but it also means to make information available in case of system failure.

4. Requirements Specification

4.1 Functional Requirements

Following is the set of requirements for the system to be developed:

- Details of the child who is enrolled in the day care centre must be stored; includes personal details, blood group, vaccination details, allergies (if any), any special habits, diseases, likes-dislikes, etc.
- Details of parent of the enrolling child are stored; includes personal as well as professional details.
- Other details like relatives of the child living nearby, their general contact details, and detail of family doctor.
- The details of appointed staff members like, their education, personal details, family background, past work experience, etc.
- Monetary details like salary payments, fees details, and inventory expenses are also stored and maintained.
- Parents should be able to access information like their child's profile, activities performed at day care centre, health reports of the child, etc.
- Baby-sitter should be able to access children details.

4.2 Objects

Objects are the entities involved in the system. This includes the director of the day care centre, the system modules that store and manipulate the information regarding the **children** enrolled, details regarding staff members which include baby-sitters, administrative staff and other staff members, and the monetary expenditure details.

4.3 Non-functional requirements

Non-functional requirements are the requirements that are not the part of how system should work, but rather, what should be done to make the system run smoothly. These requirements include crucial factors like; system's performance, safety of the information stored, prevention from unauthorized access, responsiveness of the system in every aspect. Following are the details of non-functional requirements.

- System Performance should be reliable and fast enough to deliver results even in peak load.
- The information stored should be safe from unforeseen accidents like, data loss, server crash, accidental deletion, migration to different location.
- Since information stored in the system is sensitive, the privacy of the profiles shouldn't be breached due to unauthorized access.
- The system should be responsive; it should deliver results fast enough which are accurate and reliable as well.

4.4 Design and Implementation Constraints

The non-functional requirements of the system suggests certain critical factors like, data safety, security, responsiveness, etc. and such factors can be attained only with properly crafted design of the system. The system can attain such attributes with following design constraints:

- Data stored in the system should be accessible only through password or similar secure access key.
- Data should be secured from loss in an event of system failure, be it due to internal or external factors. Eg. System should have strong data back up mechanism.
- The system should be responsive in case of retrieval of large amount of information and should provide accurate and reliable results.

4.5 User Documentation

Sunny Side Day Care is an attempt to make managing and running a day care centre more easier and reliable since it is one of those untouched business where technology is not influenced much in order to improve the system. Hence, the target users of the system must be aware of the entire system for how it works, and how they can get more out of it. The documentation should be easier enough to make users understand the nature of the system, and easier enough to understand for a novice, as the users of the system are from non-technical background.

5. System Requirements Analysis

5.1 Fact-finding Chart

Objective	Technique	Subjects
To get idea how a Day Care Centre works	Background Reading/Informal Interviews	Day Care centre documents
Identify the need of new Day Care Centre System	Background Reading/Observation	Day Care centre logs/Staff reviews
Identify features new system should possess	Interview	Day Care centre administration
Understand how new system should work	Interview/Questionnaire	Potential users of the system
Understand what can be adapted from existing system and improved in the new	Observation/Informal Interviews	Experienced users of the existing system

5.2 Questionnaire:

Name: _____

Email/Phone: _____

- **Since how many years you're running Day Care centre?**
  - 3 years
  - 5 years
  - Other: _____
- **How many children do you enrol every year (approx.)?**
  - Quantity: _____
- **What are minimum qualifications for the baby-sitter that you hire?**
  - 12th Grade
  - Graduate
  - Graduate and Experienced
  - Graduate with Specialised course for Day Care
- **What are the transport facilities available for children?**
  - Bus
  - Cab
  - None
  - Other: _____
- **How many hours day care remains open in a day?**
  - 5 Hours
  - 8 Hours
  - 12 Hours
  - Other: _____
- **How many children are taken care under single baby-sitter?**
  - Quantity: _____
- **How often do you plan activities of a day?**
  - Daily basis
  - Weekly basis
  - No planning
  - Other: _____
- **How do you manage monetary transactions related to staff salary and children fees?**
  - _____
    _____

5.2.1 Questionnaire Details

The details gathered through above questionnaire conclude to the following details:

- Most of the established day care centres are running for between 3 to 5 years.
- The number of children enrolled every year tends to change and depends on size of Day Care centre, and children are mainly enrolled twice a year. An averagely sized Day Care centre enrols approximately 300 children every year.
- The qualification for baby-sitter depends on type of activities Day Care centre performs, if children are taught pre-school education and it is desired that hired baby-sitter is at least a graduate. If the centre has more number of children per batch than an experienced baby-sitter will be an advantage. On an average, the hired baby-sitter is at least a graduate.
- Usually a Day Care centre is established in residential areas where transportation is not necessary, but in larger cities where it is difficult to set up commercial building in residential areas, Day Care centres are far from the reach of children and hence transportation is needed. Here, mixed response is observed, some day care centre don't have any transport medium while larger centres own either Bus or Cab for transport.
- A day care centre, by nature, is open for full day, i.e. 12 Hours, but in certain areas it is open for either 3 or 5 hours of the morning.
- In an average sized Day Care, a single baby-sitter is allotted for taking care of 20-25 children.
- Day's activities of a Day care are planned usually at the beginning of the day.
- Monetary transactions in larger day care centres have dedicated accounting system but in smaller day care centres, it is done manually with simple book-keeping or in spread-sheets.

5.3 Interview

The summary of the interview conducted for identifying the current system and its flaws (if any) and advantages is as follows.

- **User's role in the existing system.**
  The user is the one who will manage the details regarding children enrolment as well as new recruits in the staff, expenses made behind salary and inventory. Also, the user is also the part of the system.

- **Thoughts on reliability of existing system.**
  Most of the users of the system are from non-technical background hence the work is done manually, and hence is likely to produce inaccurate results occasionally, and hence recheck is often required to check the accuracy especially of monetary transactions and personal data of enrolled children.

- **How user friendly the current system is?**
  Since most of the work is done manually, it is more adaptable to new users and less time is required to make users aware how the existing system works.

- **Do you find data stored in the system safe and secure?**
  We don't have any special safety mechanisms for storing information, in such manual system, books of accounts is kept in a safe, while digital media, like spreadsheets are kept in password protected computer.

- **How fast the current system is in delivering results?**
  The current system includes information of around 300 children, their parent details and information about staff members, expenses made behind salaries and inventory, etc. And most of this information is on paper or either in spreadsheet hence finding required information from such large chunk of data is tedious and time-consuming.

- **Suggestions for the new system.**
  The new system is expected to remove the flaws of the current one as far as possible. Use of open source solutions will be appreciated. It should be adaptable and easier to migrate for current users.