CUDDLE CARE

Baby Care System

Interim Report

SCS 3214 | IS 3113

Group 14

SCS 3214 / IS 3113: Group Project II - 2023

Interim Report

Project Title: Baby Care System - Cuddle Care

Project Group Details

1. Group number: 14
2. Group members:

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Details of Project Supervisor, Co-supervisor, Advisors and Clients

Project Supervisor (Academic Staff of UCSC):

Name of the supervisor: Mr. Akila Gamage

Signature of the supervisor:

Date:

Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co-supervisor : Ms. H.P.N.M Jayathilake

Signature of the co-supervisor:

Date:

The client of the Project (If applicable, otherwise supervisor will be considered as the client)

Name of the client: Mr. Akila Gamage

Address of the client: UCSC

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Table of Content

Project Title: Cuddle Care Baby Care System

1. The Goal and Objectives:

The main goal of the project is to provide parents with a fully functional community-based system to take care of their babies with ease and provide them with the features for better management of their baby's daily routine throughout their life cycle. With the busy work schedule of the parents, it is quite difficult to take care of their baby's growth and other important things. Therefore, the need for a babysitter is essential to ensure that their children are cared for with kindness and attentiveness. Therefore, the main purpose of our system is to solve this problem for the majority of parents.

- Simplify the registration process for parents, babysitters, domain expert, allowing them to submit applications, provide the necessary documentation, and complete required forms online.
- Enhance communication between parents, babysitters, domain expert and administrators by providing a centralized platform for exchanging messages, updates, and important information about the baby's well-being, activities, and progress.
- The system can provide that help parents and the babysitters to track the baby's growth, BMI reports and development milestones.
- The application can send notifications and alerts to parents regarding important health and safety concerns. For example, it can remind notifications to parents provide emergency alerts in case of unusual events(premium camera feature).
- The application can provide safety guidelines and health advices to educate parents on creating a safe environment for their baby.
- The system may provide a platform for parents to connect with each other, share experiences, seek advice through a community forum.
- To provide the babysitters with a platform to find jobs easily.

2. Problem Definition

In today's world, parents' busy schedules might cause them to lose track of their children's needs. Finding someone to take care of these kids is also quite challenging. With the help of our system, parents can keep eyes on their child's development and learn more about different stages of growth and other important milestones for each age group. Additionally, parents may discover trustworthy babysitters easily. When parents are gone from the house, they may watch their child's care using a video monitoring facility. Therefore, there is no need to be worried about them, even if parents carry out their everyday tasks far from their babies. As a result, it has been difficult to keep a positive direct relationship between the parents and the babysitter up until now. The system should include features that make it easier for parents or babysitters to communicate and work together, enabling them to exchange schedule updates and other crucial details about the infant. We intend to offer a better option for busy individuals by combining all these services into one system.

2.1.Introduction

- It is really challenging for the parents to care for their children because of their busy life schedules. As a result, parents are hoping to receive certain services like babysitting, suggestions about baby growth, measuring baby growth, and assurances that their babies are well-cared for and develop properly. Therefore, the main goal of our system is to help most parents with this issue. It is possible with our system.

- Allowing parents and babysitters to submit applications, provide essential papers, and finish necessary forms online would streamline the registration process for them.

- Allowing babysitters to submit applications, provide essential documents, and finish necessary forms online would streamline the registration process for them.

- Enhance communication between parents, babysitters, and administrators by providing a centralized platform for exchanging messages, updates, and important information about the baby's well-being, activities, and progress.

- The system can enable parents and babysitters to keep track of the baby's growth and growth milestones. Parents should be able to use the system to keep an eye on their child's activities, including feeding times, cry detection, and overall health.

- Parents who use the app can receive notifications and alerts about critical health and safety issues. For instance, it can follow the baby or inform parents about impending medication alerts, send emergency notifications in the event of odd events, or both.

- The application can provide safety recommendations and advice to teach parents how to establish a secure environment for their infant.

- The system may offer a forum where parents can communicate, exchange experiences, and ask for help.

3. The scope of the project

The main objective of the project is to create a useful platform for parents who are busy working alone.

3.1.Users

- **System Administrator** –

  Responsible for verifying and managing babysitters, domain expert within our platform. Also he/she can verify credentials, maintain user profiles and handle complaints.

- **Parent**

  A parent is the main user of our web app who receives services. She or he can discover babysitters, and parents may get information on the baby and growth tracking analytic data. Parents may manage a task list, assign work to the babysitter, and monitor whether or not the babysitter has finished particular duties. Parents can also get messages and reminders.

- **Babysitter**

  Provides attentive and responsible care for babies. They can mark a checklist that parents provided using the system.

- **Domain expert**

  Administrators add domain experts to the system. domain experts Manage blogs and include blogs that may assist parents learn more about their child's development and also answer any concerns they may have.

3.2.In-Scope

- Register to the system
- Account management
- Check the verifications
- Request a babysitter by filling out the form (essential information)
- Real-time Video Monitoring
- Health and Activity Tracking
- Emergency Alerts
- Moderate and view blogs
- View analyzing charts and reports and get information about children growth
- Get notifications and reminders about special milestones
- Approve/deny babysitter requests
- Online transactions through the system
- Mark the checklist by doing the specific works
- Chat function for parents to communicate with babysitter
- Forum for parents to share their ideas

3.3.Main functionalities of the system

By utilizing the capabilities of our system, we plan to give these features. The system will be created and built to provide the main functionality listed below,

User Registration and Account Management

- Allows users to create accounts, manage their profiles, and access the platform's features and services. In registration process , admin check verification details of baby sitter and decide to add or remove the account.

Baby Growth Tracking and Analysis

- When parents enter their baby's growth parameters, such as height, weight, age and head circumference, the system provides the BMI and other related charts, conducts an analysis, and offers a visual representation of the baby's growth progress.
- According to the baby growth chart, information is given about the changes that may occur in the future and the steps that can be taken for it if there are weaknesses in growth.

Chat function for parents

- Chat function for parents to communicate with babysitter. After parent sending a request for babysitter, parent and babysitters can discuss more details through the chat.

Notifications and Emergency Alerts

- Notifications and alerts are sent to parents, notifying them of urgent circumstances such as when the baby moves out of camera's field of view ensuring that parents are aware of them in time to react quickly. And parents will get notifications and reminders about doctor visits , vaccinations.
- Babysitter may get reminders about special tasks such as mediation which parent added into tasklist.

Real-time Video Monitoring

- Enables parents to watch live video feeds from a linked baby camera from a distance, giving them the ability to keep an eye on their child's activities and ensure their safety.

Activity Tracking

- Using camera technology, we track and monitor key actions such as baby cries, and instances where boundaries are exceeded. This enables us to promptly detect and respond to these events, ensuring the utmost safety and security for infants and children.
- Babysitter updates the checklist after completing the target which assigns the parent for a day.

Growth Analysis

- Parents can get growth analysis reports and diagrams by entering length , weight, head circumference of baby and track baby growth.

Moderate and view blogs

- Domain experts may add blogs related to babies common problems, and by referring to those blogs, parents can get many ideas about baby growth.

Community Forum for parents to share their ideas

- The cuddle care baby care system gives parents an opportunity to communicate their thoughts, issues, and experiences with other parents in order to have a better knowledge of the development and care of their baby.

3.4.Non-Functional Requirements

3.4.1. Availability

- Available and accessible to users always, ensuring that parents can find a babysitter when needed.
- Shows babysitter's current availability status and updates it as soon as they accept or reject requests.

3.4.2. Usability

- Provides simple and user-friendly interfaces to all users, which helps users easily navigate between interfaces.
- Provides responsive interfaces that can be effectively used on different devices, enhancing overall user satisfaction.

3.4.3. Reliability

- Dependable and provides consistent and accurate information and services.
- Ensure that all users are valid and legitimate.
- Provide reliable recommendations based on user preferences, ratings, and reviews.
- Having enough babysitters available at any given time to meet user demand.

3.4.4. Security

- Hashing passwords
- Usage of strong encryption protocols to protect the video stream from unauthorized access.
- Handle personal data securely and guarantee that only those with permission can access it.
- Access to video monitoring is available for valid premium users.

3.5. Out Scope

The following functionalities and components will not be delivered by our system.

- The system will not support any cash payments.

4. Technologies

The deliverable of this project will be a Web Application which is developed using Angular JS and bootstrap as frontend technologies, Express JS as backend technologies and MongoDB as the database.

Draw.io will be used for the development of UML diagrams and Figma will be used for UI Design and Prototyping. Also, GitHub will be used for version control and collaboration.

5. Feasibility Study

5.1. Operational Feasibility

In today's society, both parents work outside the home. Many parents grapple with the challenge of balancing their careers with caring for their babies safely and growth and healthy. This platform is going to provide some services that help to ensure their babies' protection and health. When considering baby protection our system will provide these features. Parents can find a babysitter by checking qualifications and ratings. Also parents can monitor them to ensure their babies are safe. To address this concern, we provide a live video streaming feature. **For this purpose, we are planning to use a camera** device. Parents can track and observe the interaction and activities between the babysitter and their child in real-time. Then parents can verify that the babysitter is fulfilling their responsibilities and treating their child with the greatest care. When considering the health of babies, parents can add their baby's growth details and track growth and analysis using our system and get suggestions according to them. Also they can use blogs and community to improve their knowledge and share their ideas and experiences with others.

5.2. Scheduling Feasibility

The project spans a duration of around 4 months. The development team is made up of six members, and to finish the project on time, we have thought to distribute the man hours among

our six members. Each team member will put in a minimum of 336 hours of work, totaling 2016 hours of work to finish the system by the deadline.

Estimated man hours for the project,

Working hours per week for a member = 21 hours

Number of group members: 6

Total man hours = 21*6 hours = 126 hours

A Gantt chart is created to visualize the project's timeline and highlight the intended and required deadlines. All the development procedures and times have already been planned and are attached as a Gantt chart.

5.3.Technical Feasibility

Considering the knowledge and experience of our team members regarding the technologies we are going to use in this project, we have a basic understanding of how to work with. But since we need a lot more than basic knowledge to successfully build this system, we are looking forward to learning by sharing while we do the project to upgrade our knowledge and experience. We are going to implement the database management system using MongoDB and the In addition, the following tools and technologies will be used to accomplish the relevant tasks mentioned:

- Designing Tools: -figma
- Documentation Maintenance: Microsoft Word, Google Docs
- Versioning control: Github
- Project management tools: - Github
- Editors:- VS Code

5.4.Legal and Ethical Feasibility

This is an original idea for our team. There will be no copyright issues or infringement concerns as we have complete control over the development and implementation of the project.

- During the user registration process on our website, user identity verification is conducted to ensure the authenticity and accuracy of their information. These details are securely stored within the system, maintaining user privacy and confidentiality as a top priority. We

have implemented robust safeguards to protect user personal information from unauthorized access or misuse.

- To respect user privacy, email addresses, and phone numbers will not be disclosed publicly without explicit user permission.
- Only in cases where users provide consent, such as opting for the online advance payment option, will their data be shared with trusted third-party service providers.
- All transactions will be securely processed through reliable and standardized payment gateways, ensuring the highest level of security and privacy.
- In alignment with our commitment to legal and ethical practices, the application is developed in compliance with the licenses of the open-source software technologies utilized. We adhere to the terms and conditions set forth by these licenses, promoting a transparent and responsible approach to software development.
- Obtain necessary consent from users and clearly communicate how their data, including video footage, will be collected, stored, and used. Use encryption to prevent unauthorized access.

5.5.Economic Feasibility

- **Planning Stage:**

  At this stage, the costs are primarily associated with papers and documentation. These costs are typically manageable for university students and can be covered within the project budget.

- **Analyzing Stage:**

  During the analysis stage, the focus is on understanding how the planned system will practically work in society. This involves conducting research and gathering relevant details. Fortunately, there are many free or open-source applications and software available for this purpose, which significantly reduces costs.

- **Designing Stage:**

  In the design stage, the applications and software used are also free and open source. This means that the cost of the project remains negligible, as no significant expenses are required for designing the system.

- **Implementation Stage:**

  The implementation stage includes hosting charges for the project. In this case, as we mentioned, the domain "babycare.lk" is the desired domain. The cost associated with

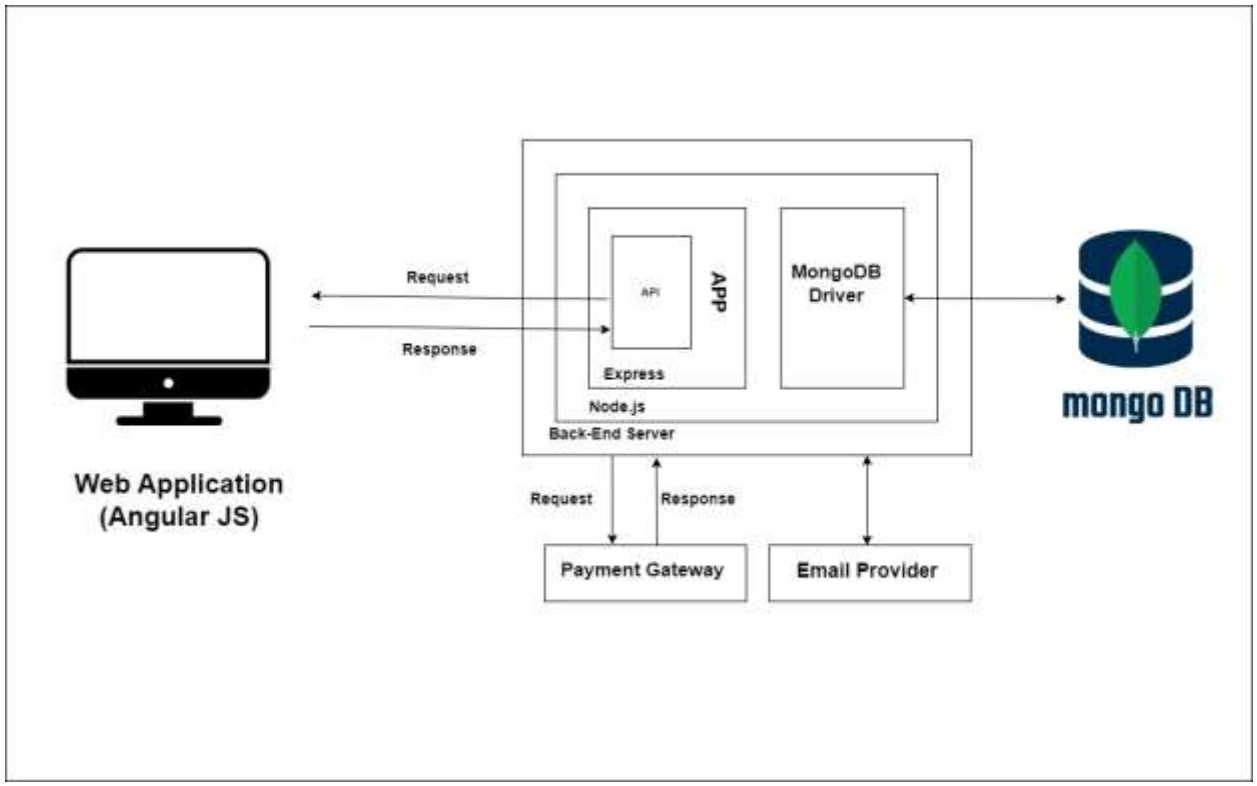
booking this domain will need to be considered. Domain booking costs can vary depending on the domain registrar and the specific domain name we choose.

- **Maintenance Cost:**

  Maintenance costs primarily involve hosting charges and the renewal of the hosting license. These costs are ongoing and need to be budgeted for throughout the project's lifespan. Consider choosing a hosting provider that offers cost-effective plans suitable for your project's requirements to minimize maintenance expenses.

  Overall, the economic feasibility of the university group baby care project appears feasible, considering the relatively low costs associated with each stage. It's essential to plan and allocate the budget accordingly, considering the above mentioned costs, to ensure the project's successful implementation and maintenance.

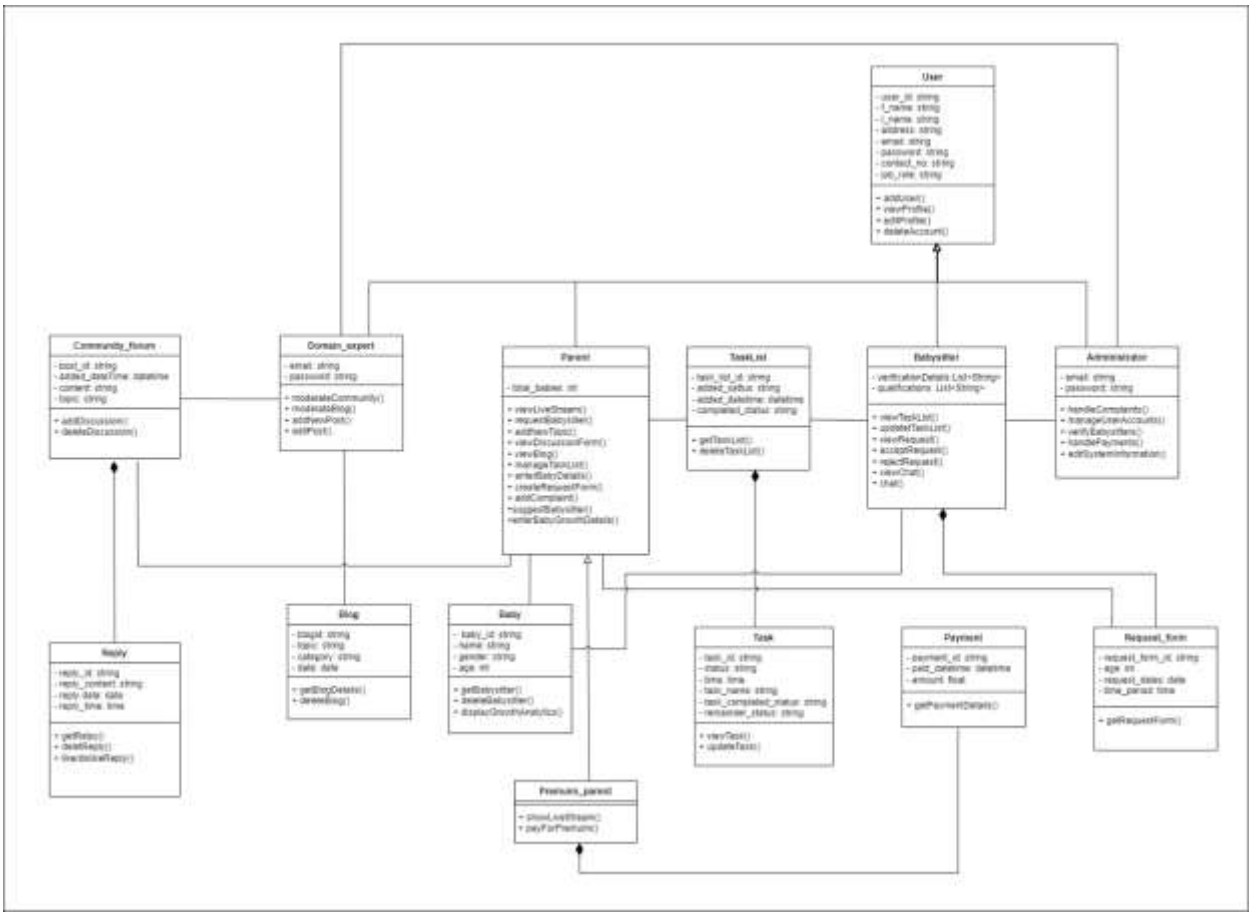
6. Systems Architecture



The architecture followed is a MVC architecture which uses 3 components, model, view and controller. Web application represent the frontend. The backend communicates with a MongoDB database, and for video monitoring, we use Tensorflow.JS and use pretrained models to process the video streams and generates analysis results, including the detection of the baby. An Alerting System continuously alerts the analysis results from the API. Payments and emails are also managed through APIs.

7. Requirements Specification

7.1. Class Diagram



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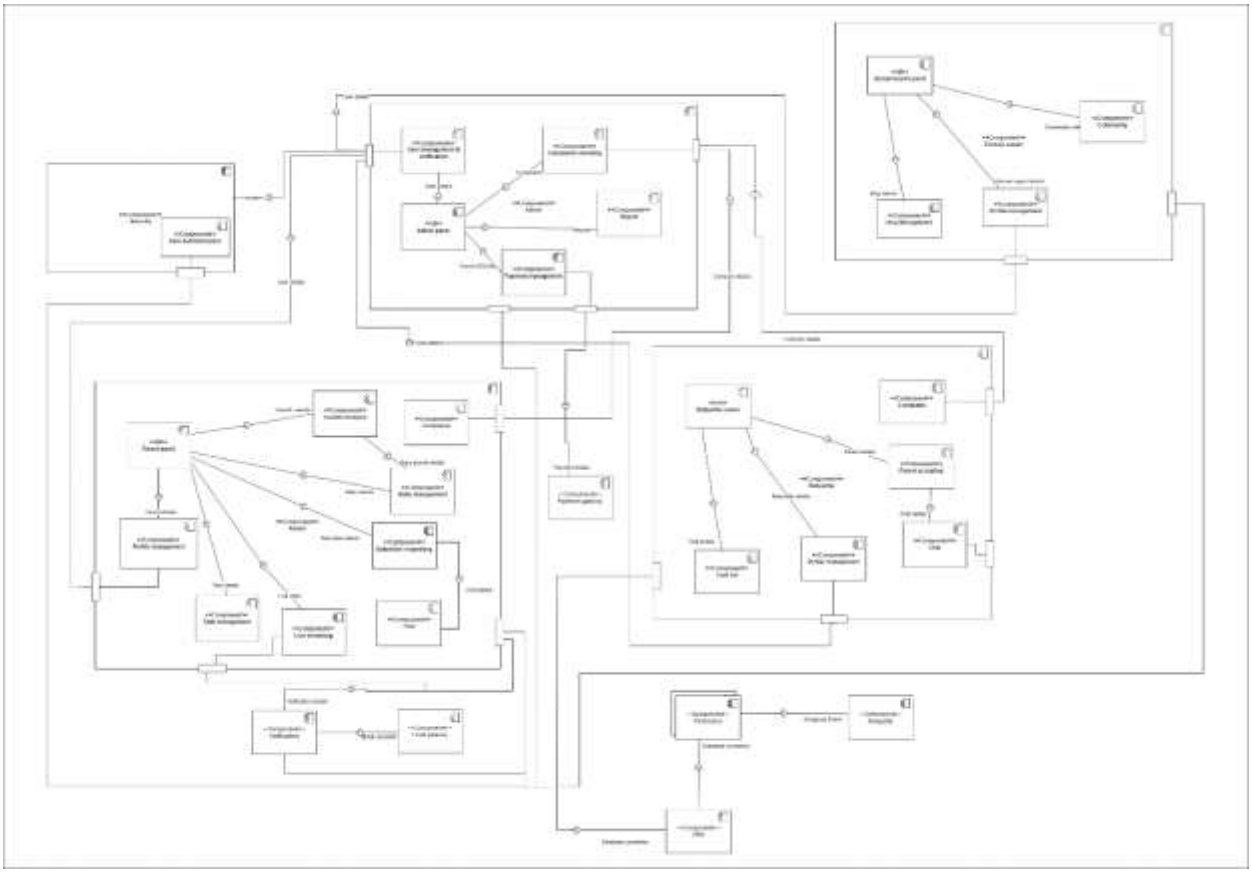
7.2.Component Diagram



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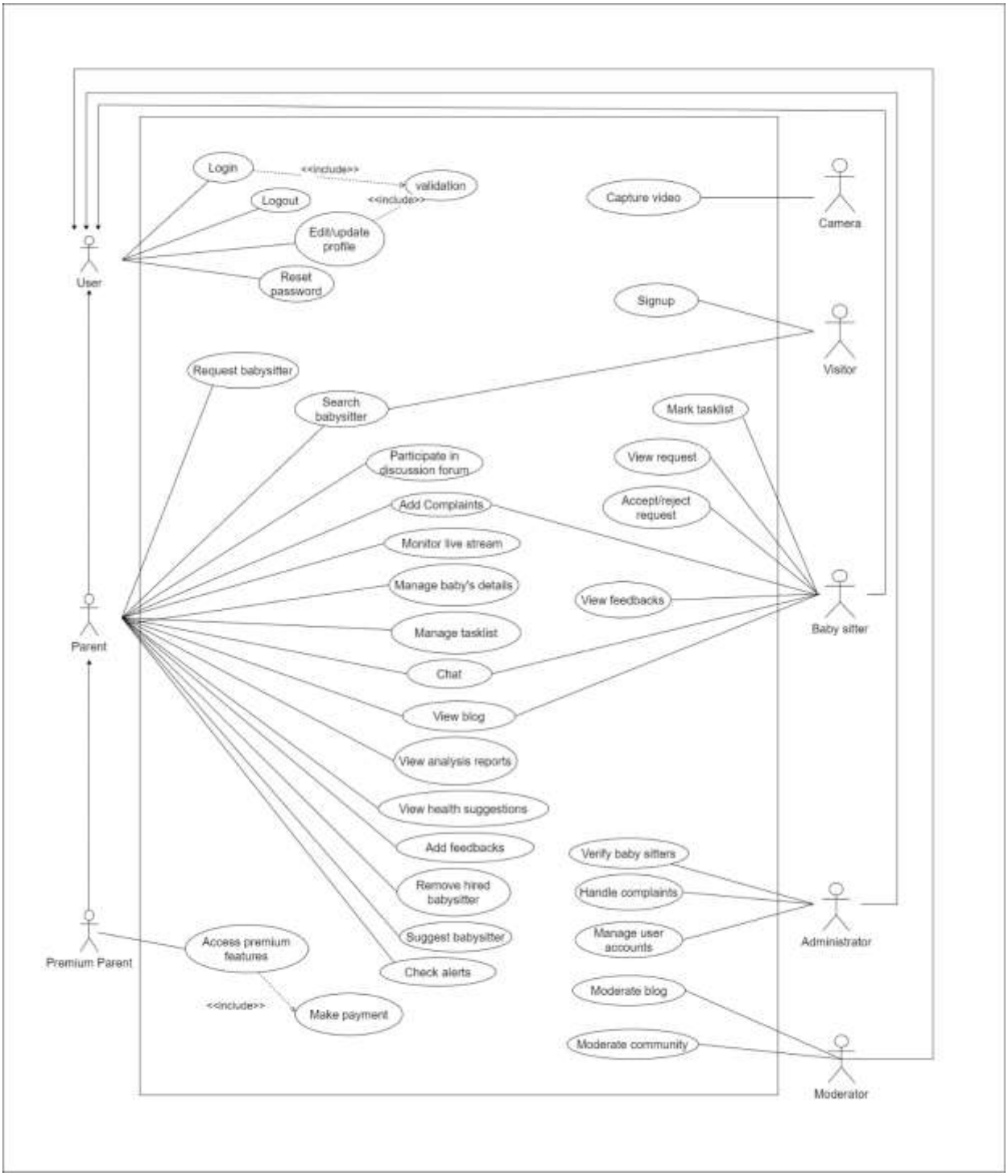
7.3.Use Case Diagram



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7.4.Use case Narratives

Use case ID	1
Use Case	Login
Description	Describe system users (parent, babysitter, admin) logging to the system
Actors	Parent, babysitter, admin

Pre-conditions

- Parent, babysitter should sign up to the system.
- The user has a valid username and password.
- The user has access to the login page.

Main Flow

1. The user navigates to the login page.
2. The system presents the user with input fields for entering their username and password.
3. The user enters their username and password into the respective fields.
4. The user clicks the "Login" button.
5. The system validates the user's credentials.

If the credentials are invalid:

1. The system displays an error message indicating that the login failed.
2. The user is prompted to re-enter their username and password.

If the credentials are valid:

1. The system authenticates the user.
2. The system redirects the user to the relevant user dashboard.
3. The user gains access to the system.

Alternative Events

None

Post-conditions

- The user is logged into the system and can access its features and functionalities.
- The user's login status is maintained until they explicitly log out or the session expires.

Use case ID	2
Use Case	Logout
Description	This use case describes the process by which a user logs out of the system.
Actors	System users
Pre-conditions	
The user is logged into the system and has an active session.	
Main Flow	
1. The user navigates to the logout page or clicks on the "Logout" button. 2. The system terminates the user's session. 3. The system redirects the user to the designated landing page.	
Alternative Events	
None	
Post-conditions	
• The user is logged out of the system. • The user's access to protected features and functionalities is revoked until they log in again.	

Use case ID	3
Use Case	Reset password
Description	This use case describes the process by which a user resets their password in case they have forgotten it or wish to change it.
Actors	Babysitter, parent

Pre-conditions

- The user has access to the password reset page.
- The user remembers their registered email address.

Main Flow

1. The user navigates to the password reset page.
2. The system presents the user with a form to enter their email address.
3. The user enters their registered email address into the provided field.
4. The user clicks on the "Submit" button.
5. The system verifies the email address provided.

If the email address is not found in the system:

1. The system displays an error message indicating that the email address is not registered.
2. The user is prompted to re-enter their email address.
3. The flow of events returns to step 3.

If the email address is valid:

1. The system generates a unique reset password link.
2. The system sends an email to the user's registered email address containing the reset password link.
3. The flow of events terminates.

Alternative Events

None

Post-conditions

An email containing a password reset link is sent to the user's registered email address.

Use Case ID	4
Use Case	Update user profile
Description	This use case describes the process by which a user updates their profile information in the system.
Actors	Parent, Babysitter
Pre-conditions	
• The user is logged into their account. • The user has access to the update profile page.	
Main Flow	
1. The user navigates to the update profile page. 2. The system displays the user's current profile information, including their name, contact details, and any other relevant details. 3. The user selects the option to edit their profile information. 4. The system presents the user with the interface to update their profile. 5. The user makes the desired changes to their profile information, such as updating their name, email address, phone number, profile picture. 6. The user submits the updated profile information by clicking on the “Update" button. 7. The system validates the updated information provided by the user. If any required fields are missing or invalid: 1. The system displays error messages indicating the specific issues with the provided information. 2. The user is prompted to correct the errors and resubmit. If the updated information is valid: 1. The system updates the user's profile with the new information. 2. The system displays a confirmation message indicating a successful profile update. 3. The flow of events terminates.	
Alternative Events	
None	
Post-conditions	
The user's profile information is updated with the new information.	

Use case ID	5
Use Case	Sign Up
Description	This use case describes the process by which parent and babysitter sign up for an account on the system.
Actors	Parent, Babysitter
Pre-conditions	
• The user has access to the sign-up page. • The user has a valid email address.	
Main Flow	
1. The user navigates to the sign-up page. 2. The system presents the user with a registration form. 3. The user fills in the required information, including their name, email address, and desired password. 4. The user reviews the terms of service and privacy policy and, if in agreement, checks the corresponding checkbox. 5. The user clicks on the "Sign Up" button. 6. The system validates the information provided by the user. If any required fields are missing or invalid, 1. The system displays error messages indicating the specific issues with the provided information. 2. The user is prompted to correct the errors and resubmit the form. If the information is valid: 1. The system creates a new user account using the provided information.	
Alternative Events	
None	
Post-conditions	

• A new user account is created in the system. • A verification email is sent to the user's registered email address.

Use case ID	6
Use Case	Search babysitter
Description	Parents can search for a babysitter according to his/her location.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Parent navigates to the find babysitter section. 2. System displays all the babysitters registered in the system. 3. Parent enters the location in the search bar. 4. System displays the babysitters according to his/her location.	
Alternative Events	
4.1 System notifies parent that the babysitters are not available from that particular location.	
Post-conditions	
• Parent has searched for a babysitter from a particular location.	

Use case ID	7
Use Case	Request babysitter
Description	Parents can request a selected babysitter according to her/his preference.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Parent navigates to the find babysitter section. 2. System displays all the babysitters registered in the system. 3. Parent selects a babysitter and clicks on ‘See profile’ button. 4. System displays the profile of the selected babysitter. 5. Parent clicks on Request button. 6. System notifies that the request sent successfully.	
Alternative Events	
6.1 System notifies parent that request didn’t send successfully.	
Post-conditions	
• Parent has sent a request to a chosen babysitter.	

Use case ID	8
Use Case	Participate in discussion forum
Description	Parents can get information, ideas and experiences from other registered parents about their babies' health concerns.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Parent navigates to Discussion forum. 2. System displays all the discussion topics added by parents. 3. Parent Clicks on Add a new Discussion topic. 4. Parent enters the topic and description. 5. System displays the newly created topic in the list.	
Alternative Events	
2.1 Parent clicks on a discussion topic and adds a comment. 2.2 System displays the added comment under the relevant discussion topic.	
Post-conditions	
• Parent has gotten information about health concerns or has given any ideas and experiences to other parents.	

Use case ID	9
Use Case	Access premium features
Description	Parents can access more features by upgrading to premium plan.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Parent clicks on ‘Upgrade to Premium’ 2. System displays the current plan, premium plan and its prices. 3. Parent clicks on ‘Upgrade’ button. 4. System displays the payment options. 5. Parent select a payment option and fills the debit/credit card details. 6. System notifies parent that payment is successful. 7. System displays that parent has successfully upgrade to premium plan.	
Alternative Events	
6.1 System notifies parent that payment was unsuccessful.	
Post-conditions	
• Parent has accessed the premium features of the system.	

Use case ID	10
Use Case	Add complaints
Description	Parents and babysitters can inform admin about any concerns/complains
Actors	Babysitter, Parent
Pre-conditions	
Parents and babysitters are registered users in the system. The Parent and babysitter have access to the complaint data.	
Main Flow	
1. The parent / babysitter logs into the System using their credentials. 2. The parent / babysitter navigates to the "Complaints" page within the system. 3. The parent / babysitter selects the option to add a new complaint. 4. The parent / baby sitter can provide details about the complaint, such as the date, time, and complaints. 5. The parent / babysitter fills in the required information and submits the complaint. 6. The system records the complaint and associates it with the parent's /babysitter's account. 7. The parent/ babysitter receives a confirmation message indicating that the complaint has been successfully submitted.	
Alternative Events	
None	
Post-conditions	
Complaints are successfully recorded and associated with the respective users (parents/babysitters).	

Use case ID	11
Use Case	Monitor live stream
Description	Parents can monitor live stream and observe the baby.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Parent clicks on ‘Live Stream’. 2. Parent clicks on Start button. 3. System displays the live stream.	
Alternative Events	
None	
Post-conditions	
• Parent has accessed the live stream.	

Use case ID	12
Use Case	Add baby’s details
Description	Describes adding a baby to the system
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Navigate to the adding baby’s section. 2. System will show the form which is use to adding baby details. 3. Enter the baby details.	
Alternative Events	
None	
Post-conditions	
• Display the baby’s profile on the parent’s dashboard	

Use case ID	13
Use Case	Update baby's details
Description	Describes update a baby to the system
Actors	Parent
Pre-conditions	
• Parent should login to the system. • Parent must have added a baby to the system before.	
Main Flow	
1. Navigate to the baby section. 2. The system shows the profile of the added babies. 3. Click edit button. 4. Enter the baby details. 5. Click the submit button.	
Alternative Events	
None	
Post-conditions	
• System will send a notification to the parent for updating the baby's details.	

Use case ID	14
Use Case	Manage task list
Description	This use case describes adding a baby's task schedule.
Actors	Parent
Pre-conditions	
• Parent should login to the system.	
Main Flow	
1. Navigate to the task scheduling section. 2. The system will show all the general tasks. 3. Select the tasks. 4. Create a task schedule and Send a copy to the babysitter.	
Alternative Events	
Parent can add task(s) that is/are not in the list.	
Post-conditions	
• The system will create a customized task schedule for their users.	

Use case ID	15
Use Case	Update the checklist
Description	This use case describe for updating baby's task schedule.
Actors	Parent
Pre-conditions	
• Parent should login to the system. • Parent must have added a checklist to the system before.	
Main Flow	
1. Navigate to the task scheduling section. 2. The system will show all the previously added checklists of the babies. 3. Click the task schedule list. 4. Edit the task(s). 5. Click the submit button.	
Alternative Events	
• Parent should be notified through a notification if the babysitter is going to change the schedule. • When the updates are not suitable send a return message to the babysitter	
Post-conditions	
• The system will save the checklist along with the changes.	

Use case ID	16
Use Case	Add Feedbacks
Description	This use case describe for adding feedbacks about the babysitter's service.
Actors	Parent
Pre-conditions	
• Parent should login to the system. • Parent should have hired a babysitter and had services from them.	
Main Flow	
1. Navigate to the babysitters section. 2. System will show all the babysitters profiles. 3. Navigate to the hired babysitter's profile. 4. Click add feedback button. 5. Provide either positive or negative feedback. 6. Click submit button.	
Alternative Events	
None	
Post-conditions	
• The feedbacks added by the parent are visible in the babysitter's profile.	

Use case ID	17
Use Case	Remove hired Babysitter
Description	This use case describes to remove babysitter(s) from the request accepted list.
Actors	Parent

Pre-conditions

- Parent should login to the system.
- The babysitter must have accepted the parent's request.

Main Flow

1. Navigate to the babysitter's section.
2. System will show all the babysitters who have accepted the parent's request.
3. Click the remove babysitter button.
4. The reason must be given to remove.
5. Enter the submit button.

Alternative Events

None

Post-conditions

- The babysitter will receive a notification with the reason for removal

Use case ID	18
Use Case	Suggest Babysitter
Description	This use case describes to suggest a trusted babysitter to the system.
Actors	Parent

Pre-conditions

- Parent should login to the system.
- Before suggesting a babysitter, the parent should have obtained a service from them.

Main Flow

1. Navigate to the babysitter section
2. Navigate to the parent profile
3. Click the recommend button
4. System will ask recommend as a trusted babysitter
5. Enter the yes or no button

Alternative Events

None

Post-conditions

The system displays the suggested babysitters in the parent's UI

Use case ID	19
Use Case	Reject request
Description	The babysitter can reject the request
Actors	Babysitter
Pre-conditions	
• The babysitter must be logged in to the system.	
Main Flow	
1. View all requests. 2. Check the details one by one. 3. If not interesting, reject the request.	
Alternative Events	
None	
Post-conditions	
• None	

Use case ID	20
Use Case	Accept request
Description	The babysitter can accept the request.
Actors	Babysitter
Pre-conditions	
• The babysitter must be logged in to the system.	
Main Flow	
1. View all requests. 2. Check the details one by one 3. Select one of them.	
Alternative Events	
None	
Post-conditions	
• None	

Use case ID	21
Use Case	View request
Description	Babysitter can view all the requests
Actors	Babysitter
Pre-conditions	
• The babysitter must be logged in to the system.	
Main Flow	
1. Click parent requests tab in the side bar. 2. View all the requests.	
Alternative Events	
None	
Post-conditions	
• None	

Use case ID	22
Use Case	Mark task list
Description	After accepting the request, the parent gives the task list. Then mark the task list.
Actors	Babysitter
Pre-conditions	
• The babysitter must be logged in to the system.	
Main Flow	
1. Accept the request. 2. Click the task list tab in the side bar. 3. Display the task list. 4. Mark task list	
Alternative Events	
None	
Post-conditions	
• Successful: Not comes the remainders. • Failed: comes the remainders.	

Use case ID	23
Use Case	View feedbacks
Description	The babysitter view feedbacks.
Actors	Babysitter
Pre-conditions	
• The babysitter must be logged in to the system.	
Main Flow	
1. Go to dashboard. 2. See feedback and rate. 3. If want to see all the feedbacks, click *view more*	
Alternative Events	
1. Go to the profile. 2. View the rates, reviews	
Post-conditions	

Use case ID	24
Use Case	View health suggestions
Description	They can view health the suggestions
Actors	Parent
Pre-conditions	
• The parent must be logged in to the system.	
Main Flow	
1. Click on the block 2. View details	
Alternative Events	
3. None	
Post-conditions	

Use case ID	25
Use Case	View blog
Description	The parent and babysitter can view blogs
Actors	Parent, babysitter
Pre-conditions	
• The parent, baby sitter must be logged in to the system.	
Main Flow	
1. Click on the block tab in the header. 2. View all blogs. 3. If you want to see more details about the blog, then click view icon. 4. View the blog.	
Alternative Events	
None	
Post-conditions	
None	

Use case ID	26
Use Case	Chat
Description	The parent and babysitter can both chat. Thereby they discuss the salary of the babysitter, responsibilities, expectations, and other details like allergies, medical info about baby.
Actors	Parent, babysitter
Pre-conditions	
• The parent, baby sitter must be logged in to the system.	
Main Flow	
1. Click on the chat icon in the header. 2. Select relevant chat. 3. Start chat.	
Alternative Events	
View blog	
Post-conditions	
• Successful: they have established communication. • Failed: The parents can only chat with the babysitter who they hired.	

Use case ID	27
Use case	Moderate community
Description	Before posting anything on community admin will check relevant discussion forums and then give approval for them.If admin gives approval then it will post on the community.Then other community users can reply for those and if those replies are unnecessary admin can remove replies.
Primary actor	Admin
Secondary actor	None
Pre-condition	
Parents must be logged in to the system	
Main flow	
1. Admin should logged in to the system 2. Then go to the moderate community page. 3. Check pending discussion forums and give approval or reject. 4. Go to the community page and check replies and moderate them.	
Alternative Event	
Request to post unnecessary discussion forums or add unnecessary replies.	
Post-condition	
Successful: Parents can share their ideas and experiences with others and also they can get to know other ideas and experiences.	

Use case ID	28
Use case	Verify users
Description	Admin have to verify the unregistered users before registering them with the system by checking their requested details and qualifications.
Primary actor	Admin
Secondary actor	Parent , babysitter
Pre-condition	
Admin should be logged into the system and each unregistered user must be requested to register to the system.	
Main flow	
1.Each unregistered user gives his/her requested details and qualifications regarding the subject. 2. Admin will check them and verify users.	
Alternative Event	
Invalid information given	
Post-condition	
• Successful: Login credentials for the users are given. • Failed: User will not added to the system	

Use case ID	29
Use case	Moderate blog posts
Description	The parent and babysitter can both chat. Thereby, they discuss the salary of the babysitter, responsibilities, expectations, and other details like allergies, and medical info about the baby.
Primary actor	Admin
Secondary actor	None
Pre-condition	
Admin must be logged in to the system	
Main flow	
1. Admin should logged in to the system 2. Then go to the moderate blog posts. 3. Admin can add new blog posts and view/edit existing posts. 4. Admin can view a number of views or react to the relevant posts.	
Alternative Event	
none	
Post-condition	
Successful: Users can read blog posts.	

Use case ID	30
Use case	User account management
Description	Admin can manage all user accounts in the system
Primary actor	Admin
Secondary actor	None
Pre-condition	
Parents must be logged in to the system	
Main flow	
1. Admin should log in to the system. 2.Go to the user account management page. 3.Activate/deactivate existing account.	
Alternative Event	
Post-condition	
Successful: activate or deactivate existing account.	

Use case ID	31
Use case	Complaints handling
Description	Admin is responsible for managing all the complaints reported by users.
Primary actor	Admin
Secondary actor	None
Pre-condition	
A user reported a complaint.	
Main flow	
1. Admin goes to the user complaint page. 2. Then view complaints and take action regarding them.	
Alternative Event	
Ignore the complaint.	
Post-condition	
• Successful: Admin will take action regarding the complaint. • Failed: If an unnecessary thing has been published, the admin will ignore them.	

8. User Interfaces

- **Introduction**

The "Cuddle Care" baby care system is an all-inclusive and compassionate solution designed to assist parents in their challenging task of caring for their children amidst busy schedules. Our mission is to provide parents with critical services, including childcare, growth advice, and the assurance that their children are loved and developing properly. The web application is designed to streamline registration, enhance communication, and empower parents and babysitters to effectively monitor the baby's development and well-being. Our user interface embodies a beautiful and loving environment, designed with the enchanting pastel unicorn dream color palette, featuring calming light purple and a delightful gradient. The choice of "Sofia Sans" for content and "Sunshiney" for the brand name ensures clarity and emotional resonance

- **Design Decisions and Justifications**

Pastel Unicorn Dream Color Palette:

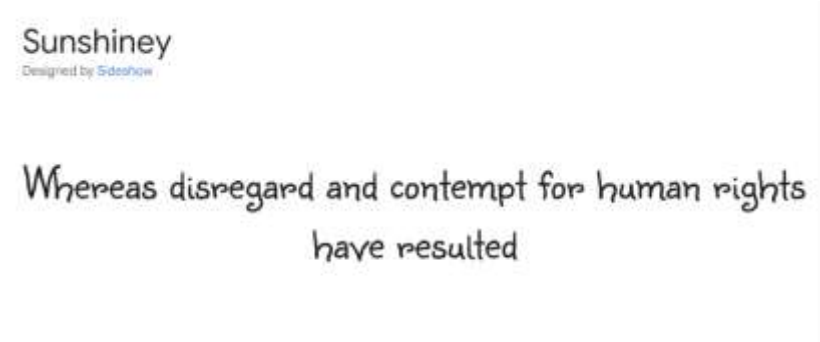
The heart of our design is the pastel unicorn dream color palette, which evokes feelings of tranquility, wonder, and enchantment. The predominant use of light purple conveys peace and tenderness, creating a soothing customer experience. The gradient in the header and footer, blending light pink, light mint, and light purple, brings back childhood innocence and excitement.

#6F5A9E #9380FF #E3CDEE #E5DBF9 #DFDDFF #FF80EC #FAE4FB #CCF9F9 #FFFFFF

Justification:
The pastel unicorn dream color scheme perfectly aligns with the "Cuddle Care" system's goal of providing comfort and caring assistance to parents. The soft and soothing tones promote a sense of calmness and happiness, ensuring a visually appealing and emotionally reassuring user interface.

Typography Choices:
"Sofia Sans": Chosen as the content font for its outstanding readability and welcoming appearance. This font ensures that parents and caregivers can readily access and comprehend crucial information, developmental milestones, and baby care advice.

"Sunshiney": Selected as the brand name font for its warm and positive connotations, resonating with the app's purpose of spreading love and care to families. This choice establishes an emotional connection with users and fosters trust.



Justification:

Prioritizing readability and brand identification, the typography choices enhance the user experience by maintaining clarity and instilling confidence in the "Cuddle Care" brand.

User-Centric Design:

The user interface is designed with the primary goal of making life easier for parents and caregivers:

Streamlined Registration: By enabling online application submission and form completion for parents and babysitters, the registration process is made quick and hassle-free.

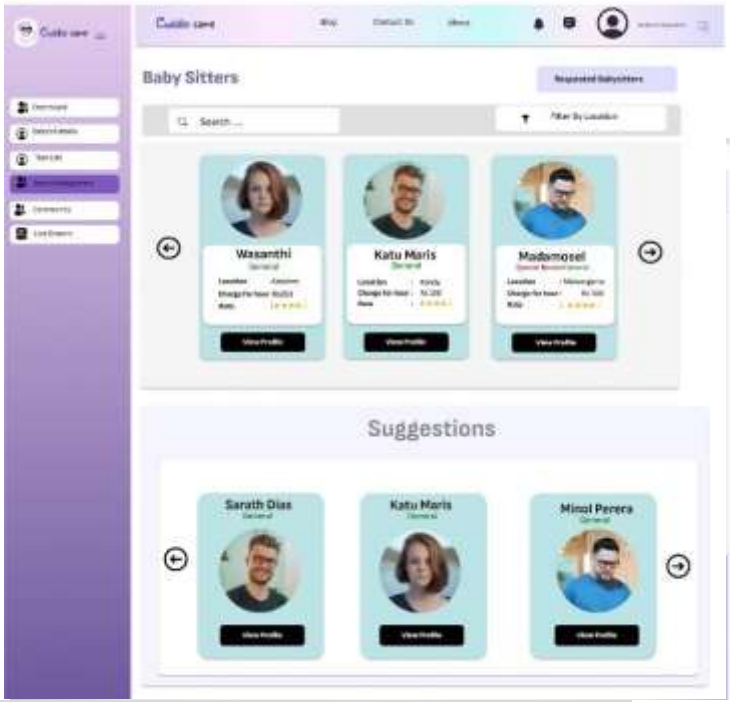
Enhanced Communication: A centralized platform for exchanging messages, updates, and important information facilitates seamless communication between parents, babysitters, and administrators, promoting a sense of community and support.

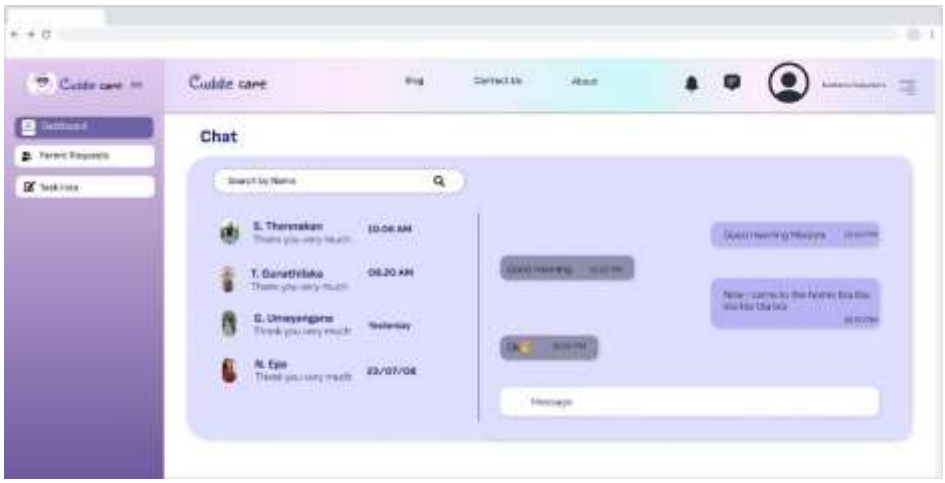
Monitoring Baby's Growth: Parents and caregivers can effortlessly keep track of the baby's growth milestones, feeding times, and overall health, empowering them with valuable insights into their baby's development.

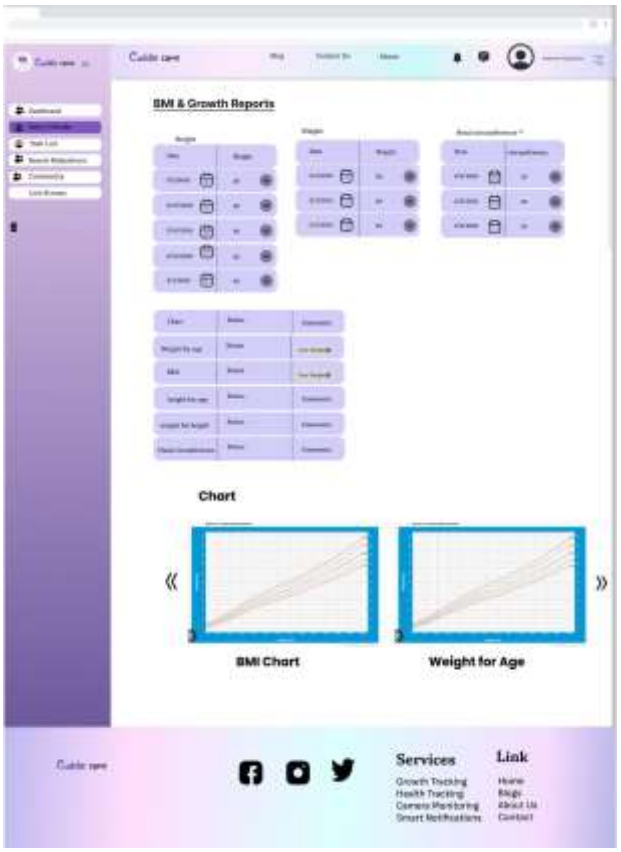
Critical Alerts: The application ensures that parents promptly receive notifications and alerts about critical health and safety issues, allowing them to respond promptly and confidently in emergencies.

Justification:

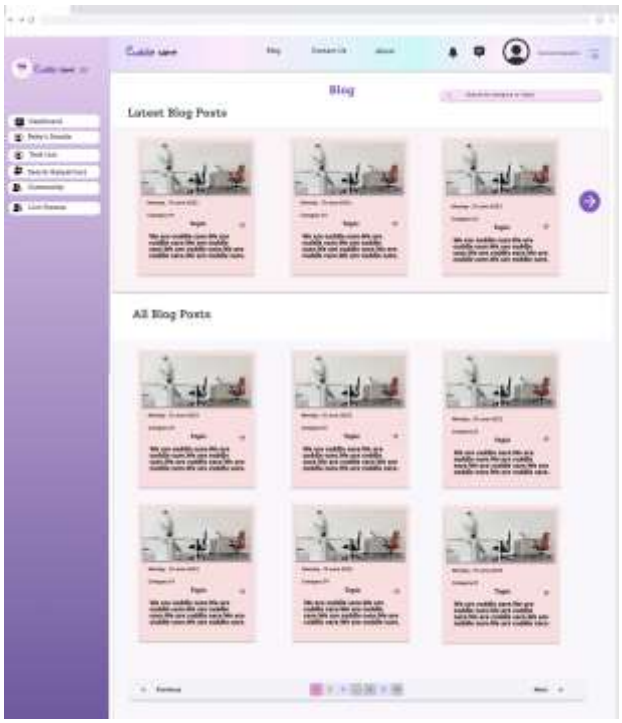
The user-centric approach ensures that the "Cuddle Care" application serves as a reliable and supportive tool for parents, addressing their unique needs with efficiency and compassion.




Cuddle care
Chat


Cuddle care
BMI & Growth Reports
Chart
BMI Chart
Weight for Age
Services
Link


Cuddle care
Discussion Forums
Write your reply here


Blog
Latest Blog Posts
All Blog Posts


Vaccination Details
Age
Vaccine
Vaccine
BCG
Year 1
Year 2
Year 3
Year 4
Year 5

- **In Conclusion**

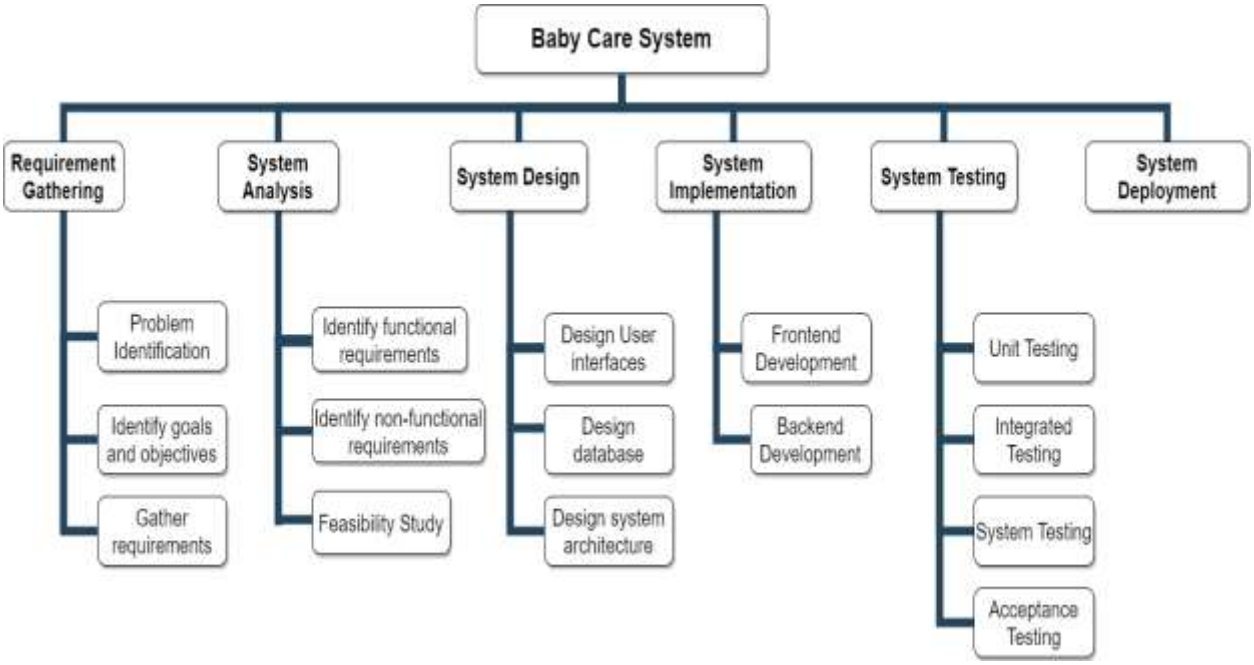
The "Cuddle Care" baby care system's user interface design embraces the enchanting pastel unicorn dream color palette to create a magical and nurturing atmosphere. The combination of light purple and gradient inspires tranquility and joy, while the choice of "Sofia Sans" and "Sunshiney" fonts emphasizes clarity and emotional connection. "Cuddle Care" serves as a comforting companion for parents and caregivers, assisting them in providing the best care for their little ones through simplified registration, improved communication, and thorough baby growth tracking.

9. Main deliverables of the system

- A whole suite of web-based software that may be used to provide services to parents of children between the ages of 2 and 10 and the source code
- Complete Software Requirement Specification describes the functional and non-functional requirements of the proposed system.
- User manual, which gives instructions for the user to use the system.
- Administrators manual together with deployment instructions

10. The Project Plan

10.1. Work Breakdown Structure



10.2. Gantt Chart

No	Activity	June				Jul				Aug				Sep				Oct	
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
1	Problem Identification																		
2	Requirements Analysis																		
3	Feasibility Study																		
4	Preliminary Presentation																		
5	Interface Design Phase I																		
6	Implementation Phase I																		
7	Unit and Intergration Testing Phase I																		
8	SRS Documentation																		
9	Interim Presentation																		
10	Interface design Phase II																		
11	Implementation Phase II																		
12	Unit and Intergration Testing Phase II																		
13	System Testing																		
14	Implementation Phase III																		
15	Final Presentation																		

11. References

https://www.tensorflow.org/js/models

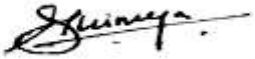
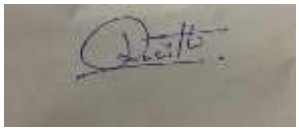
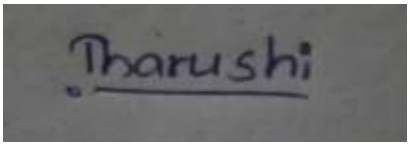
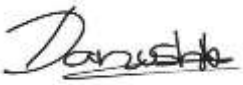
https://codelabs.developers.google.com/codelabs/tensorflowjs-object-detection

https://docs.opencv.org/3.4/d5/d10/tutorial_js_root.html

https://github.com/tensorflow/tfjs-models/tree/master/coco-ssd

12. Declaration

We as members of the project titled Cuddle Care Baby Care system, certify that we will carry out this project according to guidelines provided by the coordinators and supervisors of the course as well as we will not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university. To the best of our knowledge and belief, the project work will not contain any material previously published or written by another person or ourselves except where due reference is made in the text of appropriate places.

Name	***Signature***
P.K.S.Thimaya	
M.R.D.Siriwardhana	
T.H.T.C.Gunathilaka	
K.G.D.M.Wijesinghe	
R.W.M.E.N.Rajapaksa	
E.M.I.N.Ekanayake