



## **USER MANUAL**

## **A.1 Introduction**

### **A.1.1 About Childev**

Childev is a web application dedicated to helping nurseries to store and manage their data. It provides mobile-friendly, easy-to-use and security features so that nurseries can provide parents with a unique experience. The main purpose of Childev is to calculate the progress children make in the nursery and display it on an interactive graph that parents can see on any device. However, it also provides Nurseries with the opportunity to create their own Content Management System so that Nurseries can provide their users (Parents and Teachers) with a personalised Content Management System.

Childev uses many technologies connected with each other to provide a fast and reliable service. These technologies are:

- For the Client-side: HTML5, CSS3, JavaScript, JQuery.
- For the Server-side: Node.js, Express.js, EJS.
- For the Database: MongoDB.
- For the Data Visualization: D3.js and Chart.js.

### **A.1.2 Main Features**

- Unique Content Management System for each user.
- Messaging System.
- Voting System.
- Mailing System.
- Mobile Responsive.
- Secure and Private.
- Evaluation and Visualization of the development of Children in a Nursery.

## A.2 Application Deployment

A hosting provider that supports Node.js is needed. For this project, I chose Heroku <sup>1</sup> which is a container-based cloud Platform as a Service (PaaS). With Heroku, Developers can deploy, manage, and scale modern apps.

Furthermore, a Database provider that supports MongoDB is needed. I decided to use mLab <sup>2</sup> which lets you store the data of your application and access it when desired. Also, a Sendgrid <sup>3</sup> account is needed to manage the mailing system of the web application, and a mail template needs to be created so that every email has a concise form.

To set up the Childev application, follow these steps:

1. You need to create a Heroku account and deploy the project to Heroku.
2. You need to create an mLab account and get the API key.
3. You need to create a Sendgrid account and get the API key.
4. You need to create a mail Template in Sendgrid and get the API key.
5. Once you get the API keys from mLab and Sendgrid, you need to add these keys, as environment variables in Heroku, in the following way.
  - DATABASEURL : The API key from mLab.
  - SENDGRID\_API : The API key from Sendgrid.
  - SENDGRID\_TEMPLATE\_WARNING : The API key for the email template from Sendgrid.
  - ADMIN\_EMAIL: The email of the Childev administrator.

Once the accounts have been created and the Environment variables have been added, the web application will be accessible by anyone using the URL given by Heroku. Please note that you can use your own URL.

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<sup>1</sup><https://www.heroku.com/>

<sup>2</sup><https://mlab.com/>

<sup>3</sup><https://sendgrid.com/>

## A.3 Getting Started

### A.3.1 Initial Web Page

The home page includes information about Childev. It is designed to attract potential users who can register Nurseries and make the application more popular. Moreover, it includes the main features of the application and also the advantages for Nurseries and Parents. It also includes two different Login forms, one for parents and one for the staff of the nursery, Links to the registration page and evaluation page, and a Contact form at the bottom of the page.

In the Evaluation page, users can see information about how the evaluation process works. They can also see an explanation of the grading system and an explanation of the priority order, depending on the age of the child.

In the Register Nursery page, managers of Nurseries will be able to register their nursery in Childev so that they can create their own Content Management System.

In the Contact Form, users will be able to send queries to the Childev administrator.

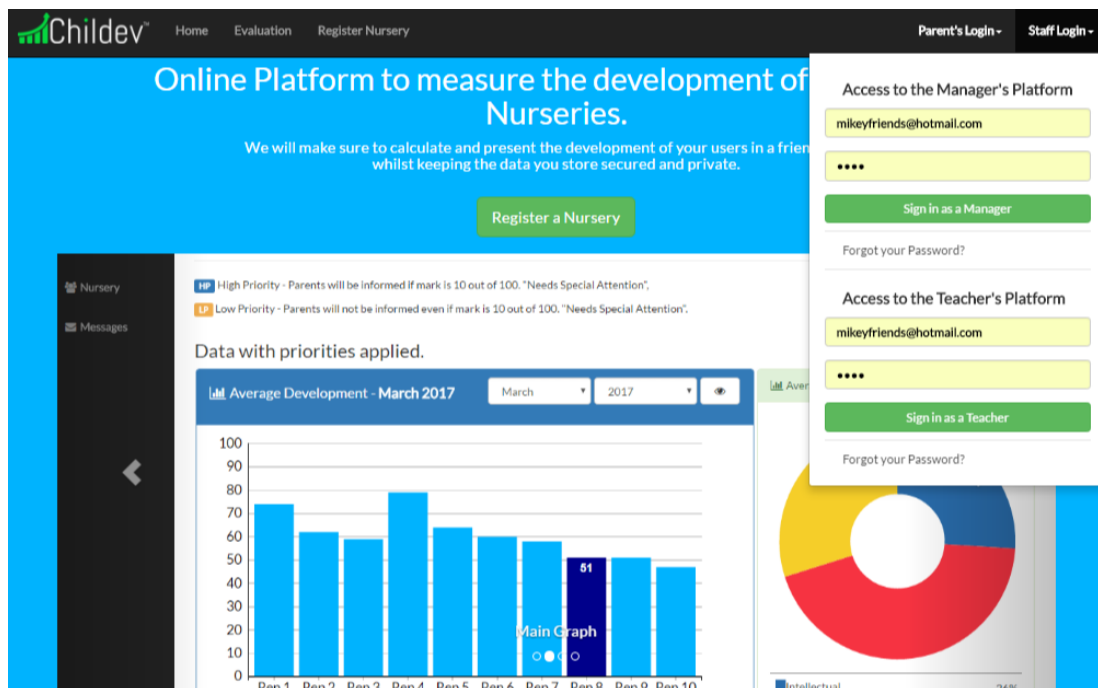


Figure A.1: Home Page

### **A.3.2 Registration Instructions**

The following subsections will provide detailed instructions on how to use Childev. It will be a walk-through of sessions for each User of a Nursery, such as a Manager, a Teacher and a Parent.

Managers of nurseries who want to register their Nursery at Childev have to complete a registration form with several fields that are necessary for users to know enough information about the nursery such as contact number and address. Then, a confirmation link will be sent to the email of the manager. Once the manager has confirmed his email, he will be able to have access to the created account and log in.

The process for a teacher to be registered in a Nursery works in the following way. A Manager of a Nursery sends a registration email to a teacher; this teacher clicks on the registration link and completes the registration form; if the user is already registered or the registration link expired, the teacher will not be able to register. Otherwise, the teacher will be registered and will be able to have access to the created account and log in.

A parent can only be registered after a child has been registered first, as there must first exist a child for a parent to use the system. The process for a parent to be registered in a Nursery works in the following way. A Manager of a Nursery register a new child and sends a registration link to his parent; this parent clicks on the registration link and completes the registration form; if the user is already registered or the registration link expired, the parent will not be able to register. Otherwise, the teacher will be registered, and he will have access to the created account and log in.

### A.3.3 Manager Session

Once the manager of a nursery has logged in, he will have access to the following sections.

- Dashboard, from which the manager will be able to:

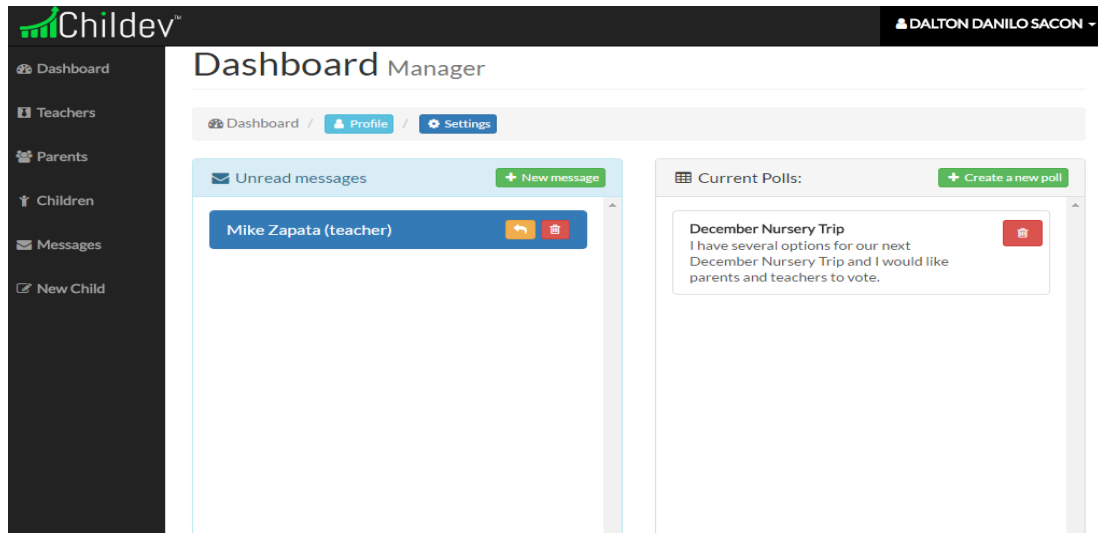


Figure A.2: Dashboard of Manager

1. See the latest unread messages that teachers or parents have sent him, reply to these messages or create a new message.
2. See all the polls created by him, create a new poll, delete any poll or access a poll to participate in the voting.

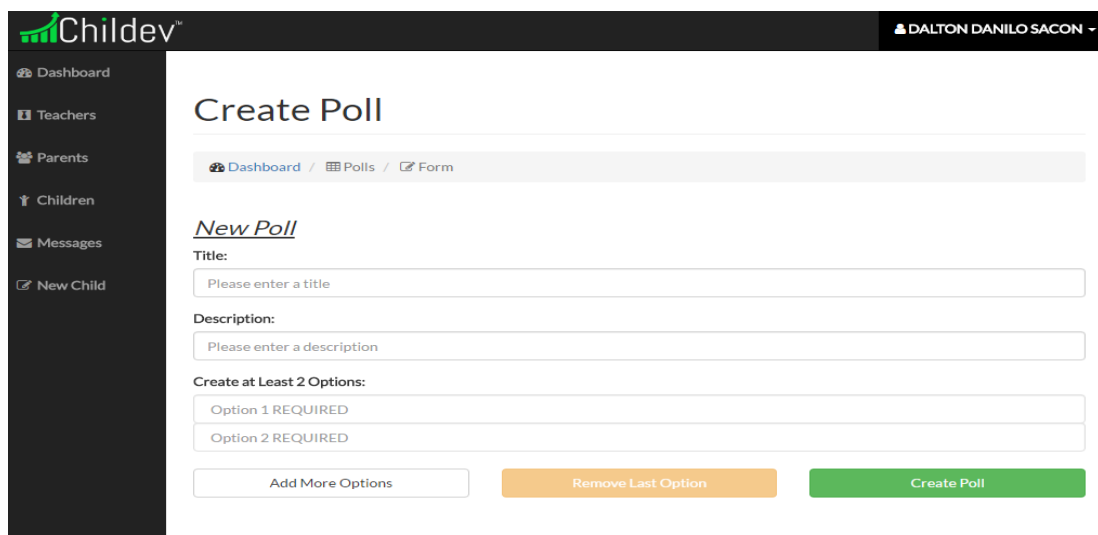


Figure A.3: Create Poll Form, only accessible by Managers.

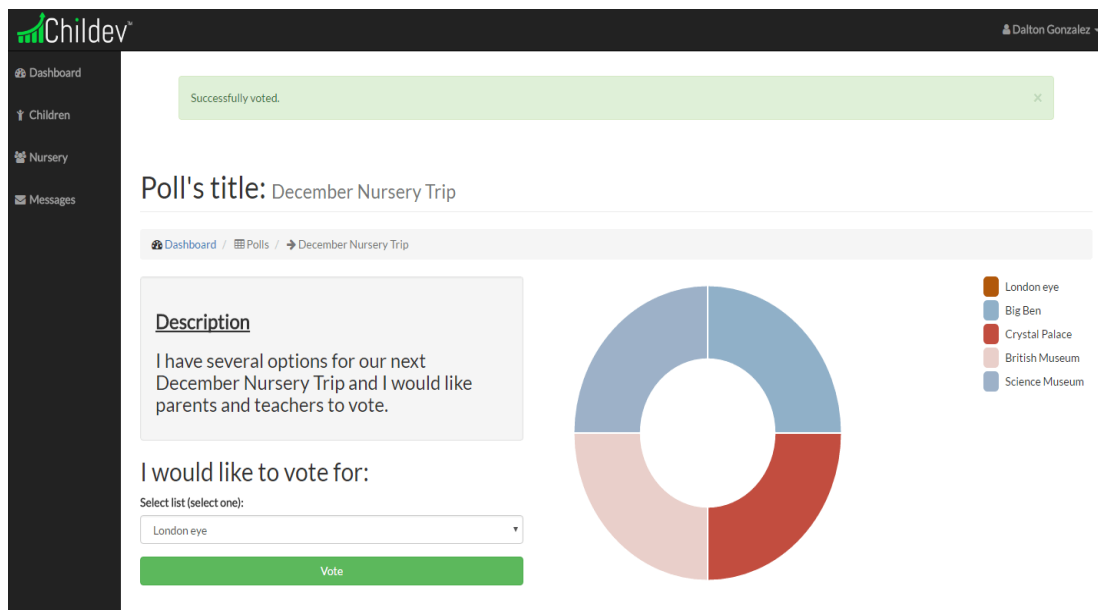


Figure A.4: Poll, where any user registered at a specific Nursery can vote.

3. Access his profile details, from which he will be able to edit his details

The screenshot shows the Childev web application interface for a user profile. The navigation bar at the top shows the Childev logo and the user profile 'DALTON DANILO SACON'. The sidebar on the left contains links to Dashboard, Teachers, Parents, Children, Messages, and New Child. The main content area is titled 'Profile' and shows the user's 'Username: mikeyfriends@hotmail.com'. Below the username, there are two main sections: 'Edit Nursery's details' and 'Edit Manager's details'. The 'Edit Nursery's details' section includes fields for Nursery's Name (My Little Nursery), Nursery's Unique Reference Number (4324243), Nursery's Contact Number (7475005845), and Nursery's Address (19 GRANTON ROAD, LONDON, United Kingdom, SW16 4TJ). The 'Edit Manager's details' section includes fields for Manager's First Name (DALTON DANILO), Manager's Last Name (SACON), and Manager's Contact Number (7475005845). At the bottom right, there's a warning message 'Changes cannot be undone.' and two buttons: 'Save changes' (green) and 'Reset form' (orange).

Figure A.5: Poll, where any user registered at a specific Nursery can vote.

4. Access the settings menu, from which he will be able to change his password or remove the nursery from the System.

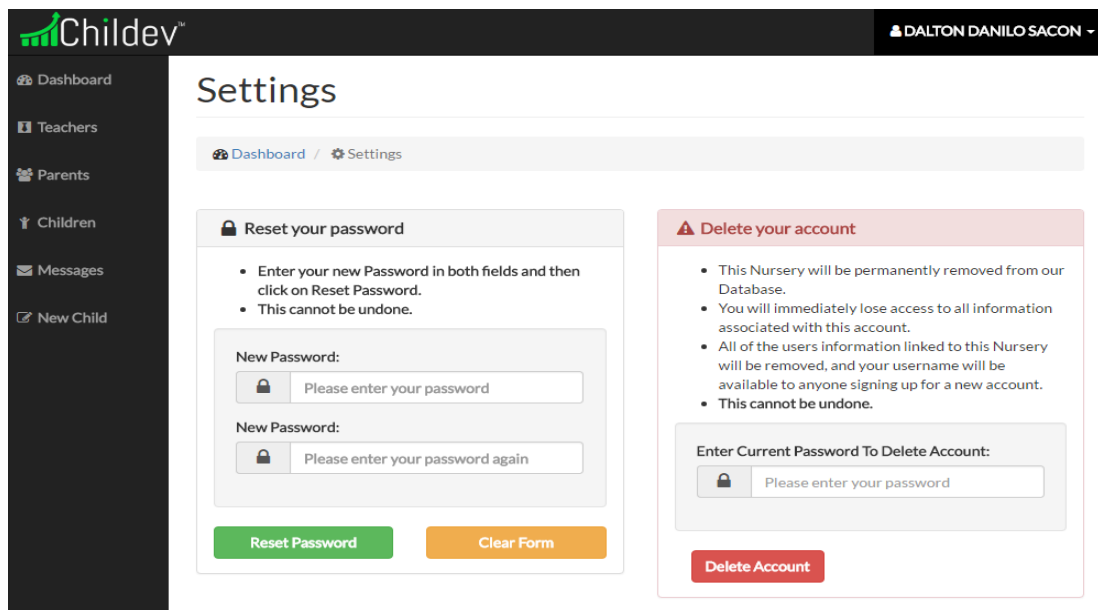


Figure A.6: Poll, where any user registered at a specific Nursery can vote.

- Children, from which the manager will be able to:

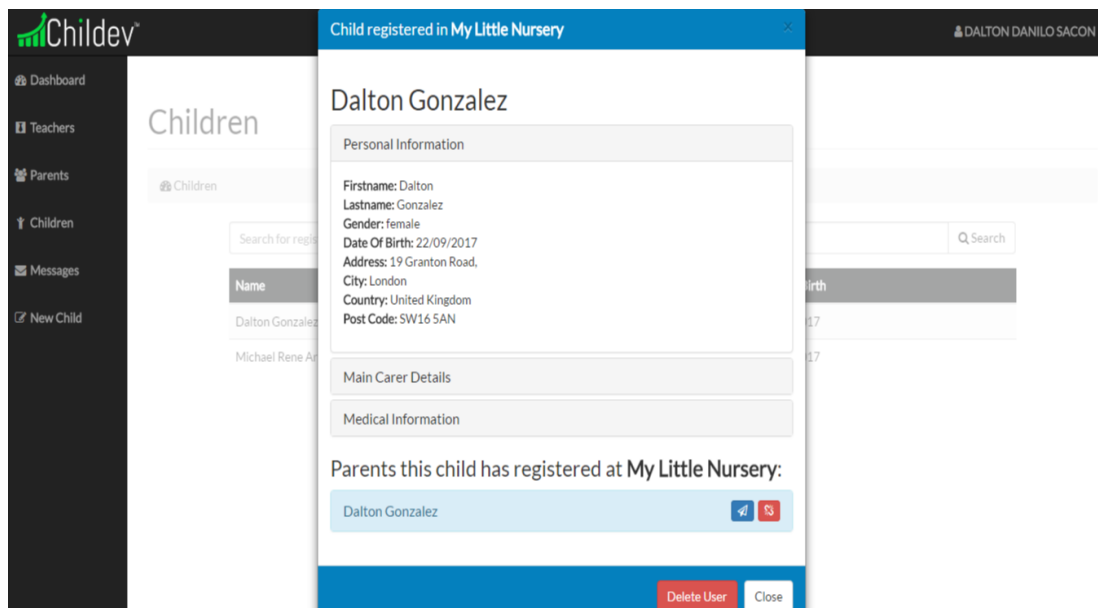


Figure A.7: Children section for Managers to manage the children registered in the Nursery.

1. See all the Children attending the Nursery and their details.
2. Remove any child from the Nursery.
3. Unlink a Child from a Parent, to prevent that Parent from having access to the details of that Child.



- Teachers, from which the manager will be able to:

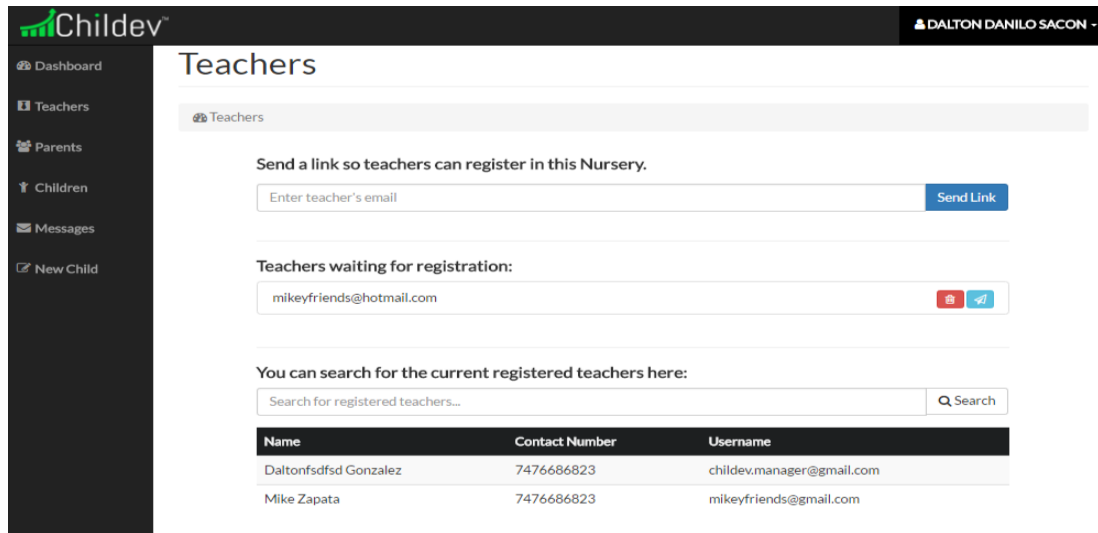


Figure A.8: Teacher section for Managers to manage the teachers registered in the Nursery.

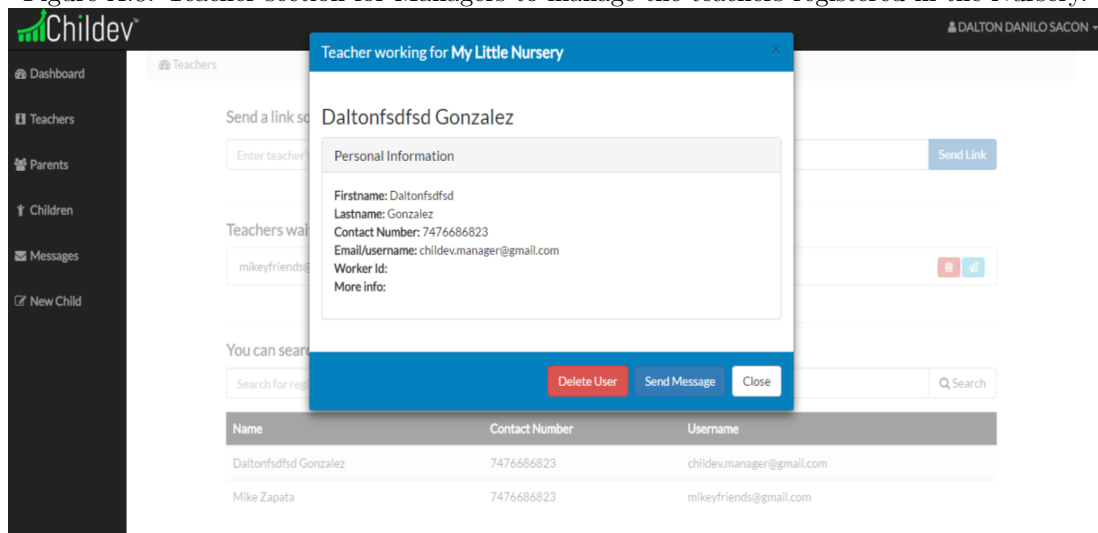


Figure A.9: Details of the selected Teacher.

1. See all the Teachers working at the Nursery and their details.
2. Send a registration email to Teachers so that they can register in the Nursery as a Teacher.
3. Send a message to a Teacher or Remove a Teacher from the Nursery.

As you can see in figure A.7, a Manager can send a registration link to a Teacher. Moreover, the email of the teacher will be in a list called "Teachers waiting for registration" until the teacher has completed the registration form. Also, if the manager removes the email of the teacher from this list, the link sent to the parent will no longer be valid, and

a new link will have to be requested.

- Parents, from which the manager will be able to:

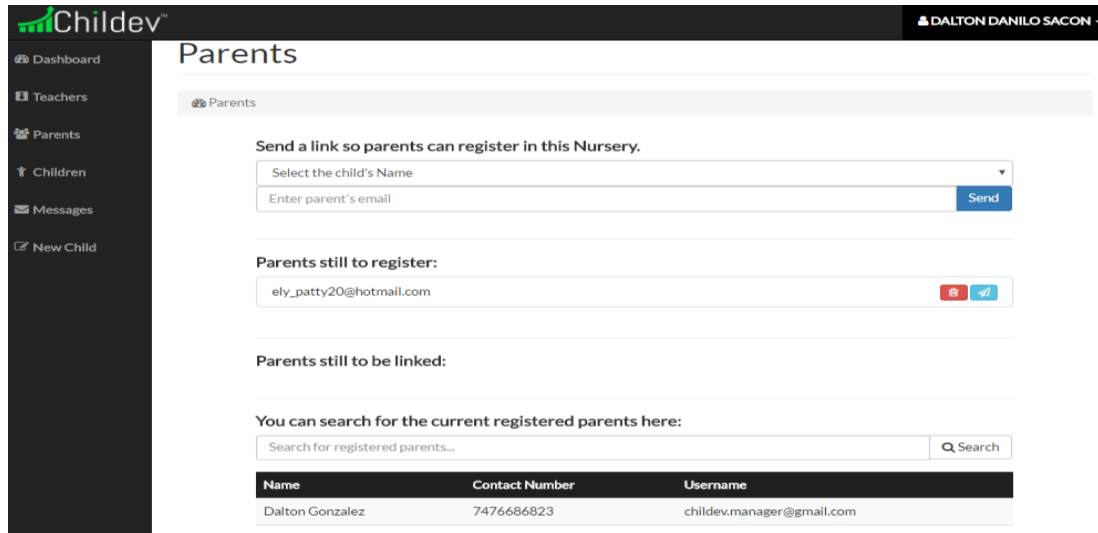


Figure A.10: Parent section for Managers to manage the parents registered in the Nursery.

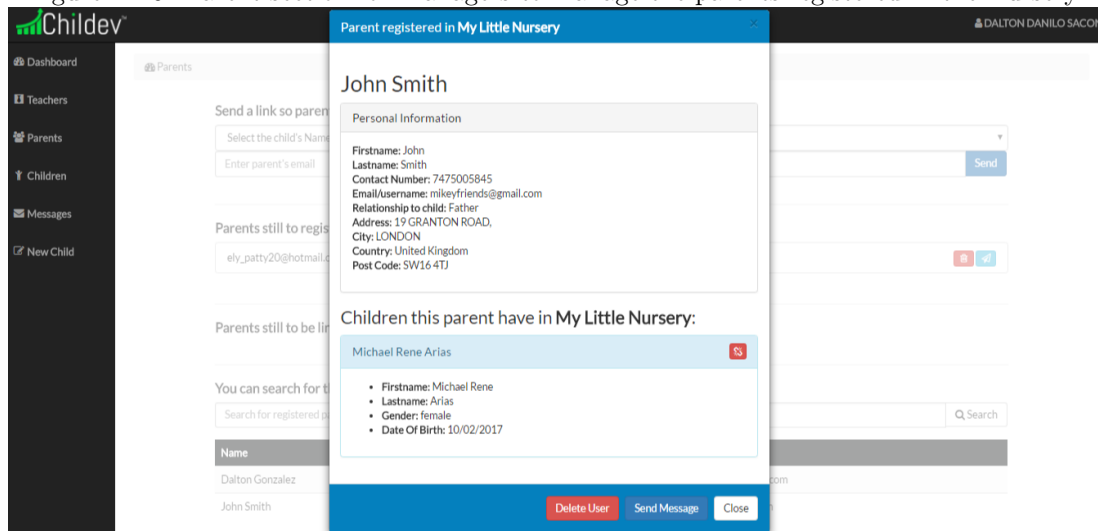


Figure A.11: Details of the selected Parent.

1. See all the Parents of Children attending the Nursery and their details.
2. See the Children currently linked to a Parent.
3. Send a registration email to Parents so that they can register in the Nursery as a Parent.
4. Remove any Parent from the Nursery.
5. Unlink a Parent from a Child, to prevent that Parent from having access to the details of that Child.

As you can see in figure A.9, a Manager can send a registration link to a Parent by first selecting the child to be linked to and then entering the email address. Moreover, the email of the parent will be in a list called "Teachers waiting for registration" until the Parent has completed the registration form. Also, if the manager removes the email of the parent from this list, the link sent to the parent will no longer be valid, and a new link will have to be requested.

- Messages, from which the manager can access the messaging system.

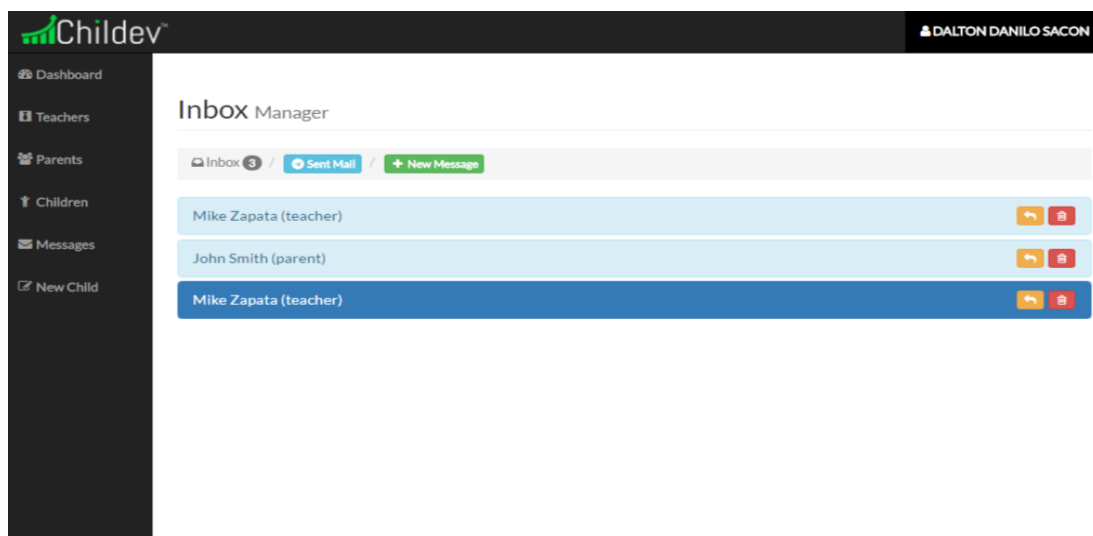


Figure A.12: Inbox

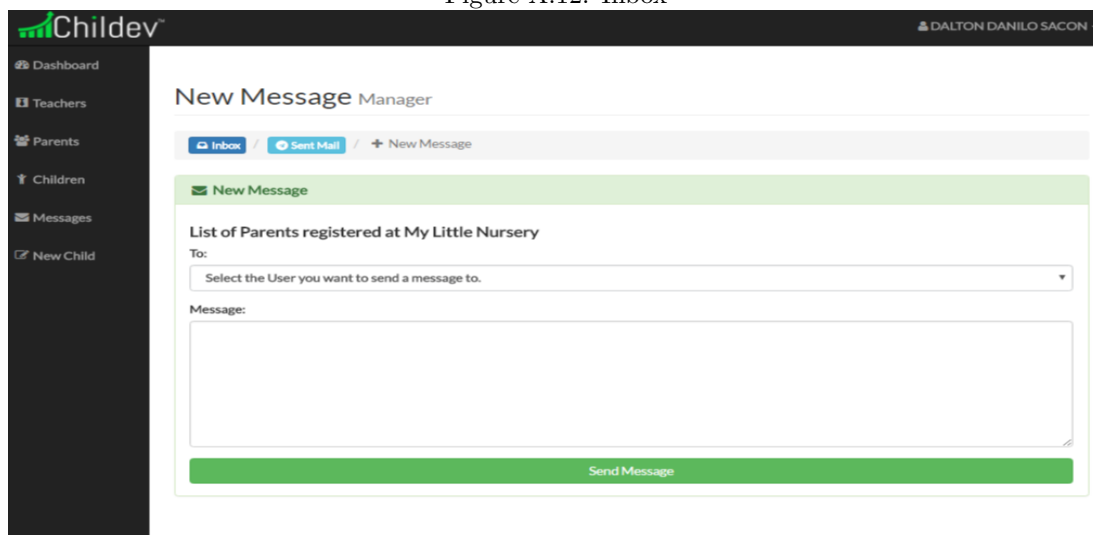


Figure A.13: New Message Form

1. See the unread, read and sent messages.
2. Send a New Message to users registered in the same Nursery.

- New Child, from which the manager will be able to register a new child.

**Childev** DALTON DANILO SACION

Dashboard Teachers Parents Children Messages **New Child**

### Register a child in My Little Nursery

Forms

**Child's details:**

Child's First Name:

Child's Last Name:

Child's gender:

Child's date of birth:

Child's Address:

**Main carer's details:**

Figure A.14: Form to register a new child in the Nursery.

Once the form is submitted, it will first check that the child is not already registered, then it will register the child and will automatically send a registration email to the main carer specified in the form. If new parents want to be added, they will have to be added in the Parents section.

### A.3.4 Teacher Session

Once the teacher of a nursery has logged in, he will have access to the following sections.

- Dashboard, from which the teacher will be able to:

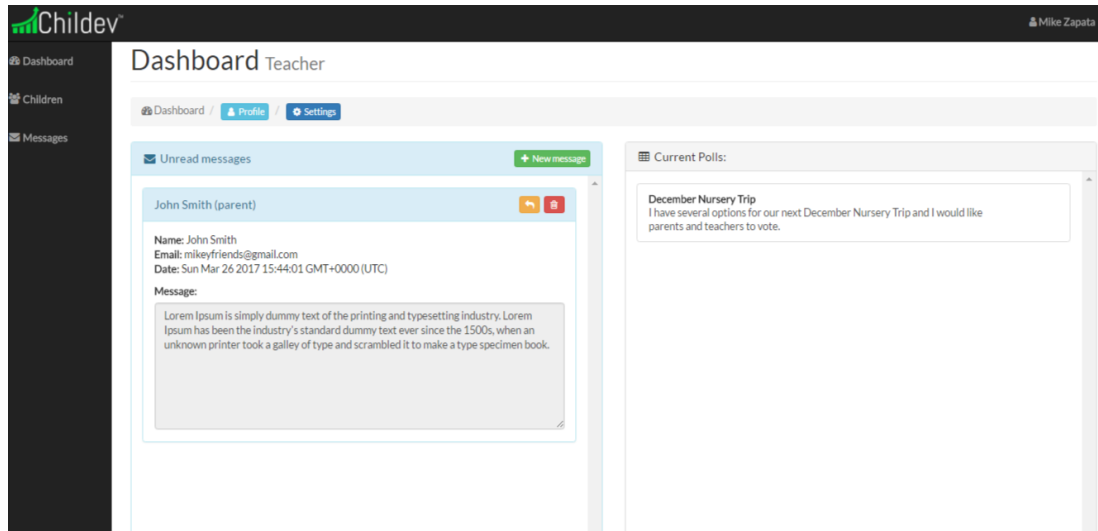


Figure A.15: Dashboard of Teacher

1. See the latest unread messages that the manager or parents have sent him, reply to these messages or create a new message.
  2. See all the polls created by the manager of the Nursery and access any poll to participate in the voting (Figure A.4).
  3. Access his profile details, from which he will be able to edit his details (similar to Figure A.5).
  4. Access the settings menu, from which he will be able to change his password or remove the nursery from the System (similar to Figure A.6).
- Messages, from which the teacher can access the messaging system.
    1. See the unread, read and sent messages.
    2. Send a New Message to the manager and parents registered in the same Nursery.

- Children, from which the teacher will be able to:

The screenshot shows the Childev application interface. On the left is a sidebar with 'Dashboard', 'Children', and 'Messages'. The main area is titled 'Children' and contains a search bar and a table of children. A modal window for 'Dalton Gonzalez' is open, showing the following details:

- Personal Information:** Firstname: Dalton, Lastname: Gonzalez, Contact Number: 7476686823, Email: childevmanager@gmail.com, Relationship to child: Mother.
- Main Carer Details:** (Empty)
- Medical Information:** (Empty)
- Parents this child has registered at 'My Little Nursery':**
  - Dalton Gonzalez (with a checkmark icon)

At the bottom of the modal are buttons for 'See Progress', 'Write Report', and 'Close'.

Figure A.16: Children section, where Teachers can access the details of Children

1. See all the Children attending the Nursery and their details (figure A.16).
2. See the parents of a child, who is attending the Nursery, and their details (figure A.16).
3. Access the report form to evaluate the progress a child has made in the nursery during a specific period of time (figure A.17).

The screenshot shows the 'Report Form' in the Childev application. It includes a sidebar with 'Dashboard', 'Children', and 'Messages'. The main area contains a 'Report Form' section with the following sub-sections:

- Intellectual Development:**
  - Mathematical Skills (Mark dropdown)
  - Language and communication Skills (Mark dropdown)
  - Attention Skills (Mark dropdown)
  - Recognition and perception Skills (Mark dropdown)
- Social and Emotional Development:**
  - Affection and respect for others (Mark dropdown)
  - Team-working skills (Mark dropdown)
  - Independence and personal autonomy (Mark dropdown)
  - Expression of feelings and emotions (Mark dropdown)
- Psychomotor and Physical Development:**
  - Motor skills (Mark dropdown)
  - Manipulative and movement skills (Mark dropdown)
  - Personal hygiene (Mark dropdown)
  - Healthy Diet (Mark dropdown)
- Comments and Suggestions:**
  - Any comment about this child: (Text area)

A green 'Create Report' button is at the bottom.

Figure A.17: Report form to evaluate the progress of a child.

4. Access the Children Development Visualization page to see the progress that a child has made in the nursery during a specific period of time.

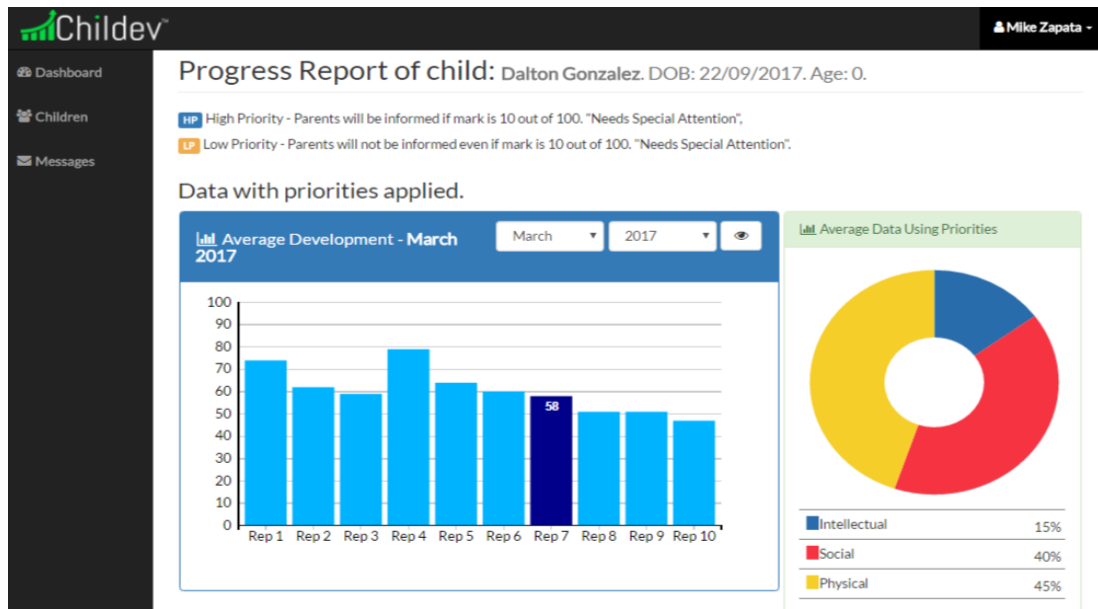


Figure A.18: Graph that displays the different reports of a child.

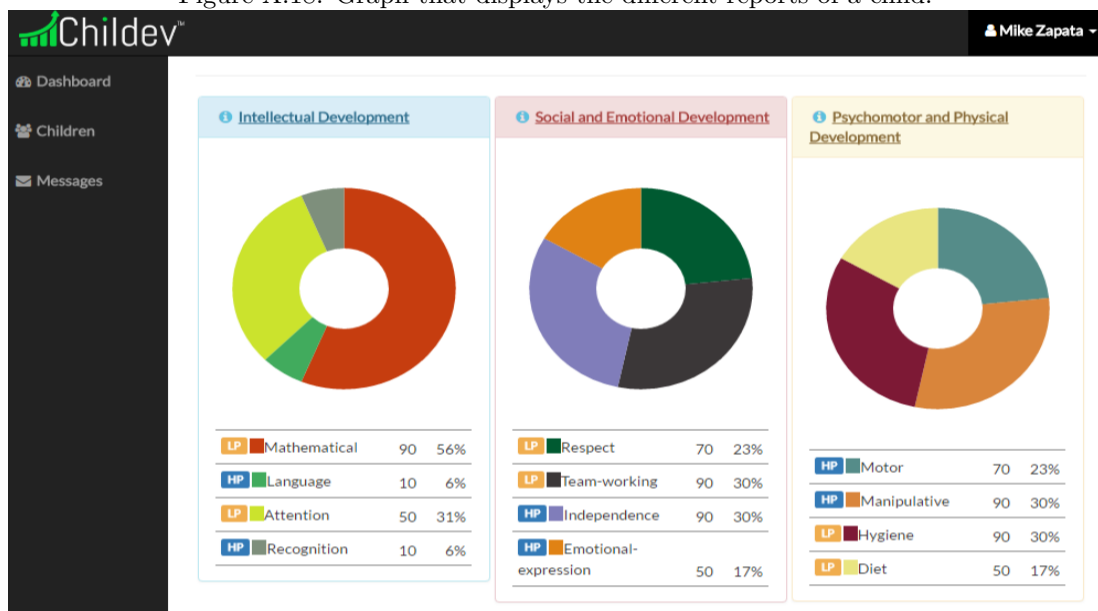


Figure A.19: Graphs that display the marks that a child received for a specific report.

### A.3.5 Parent Session

Once a parent of a child attending a nursery has logged in, he will have access to the following sections.

- Dashboard, from which the parent will be able to:

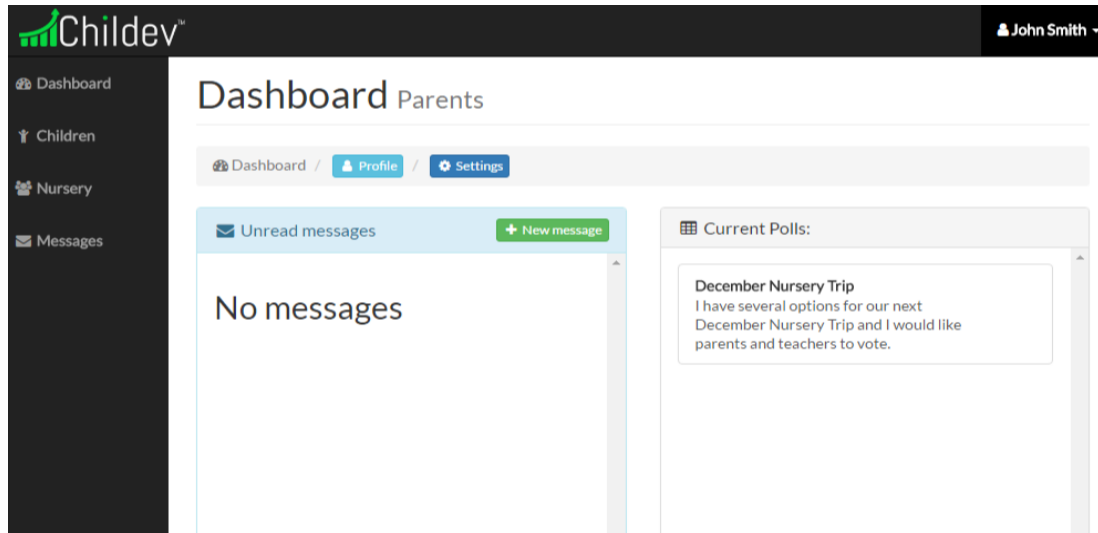


Figure A.20: Dashboard of Parents

1. See the latest unread messages that the manager or teachers have sent him, reply to these messages or create a new message.
  2. See all the polls created by the manager of the Nursery and access any poll to participate in the voting (Figure A.4).
  3. Access his profile details, from which he will be able to edit his details (similar to Figure A.5).
  4. Access the settings menu, from which he will be able to change his password or remove the nursery from the System (similar to Figure A.6).
- Messages, from which the parent can access the messaging system.
    1. See the unread, read and sent messages.
    2. Send a New Message to the manager and teachers registered in the same Nursery.



- Children, from which the teacher will be able to:

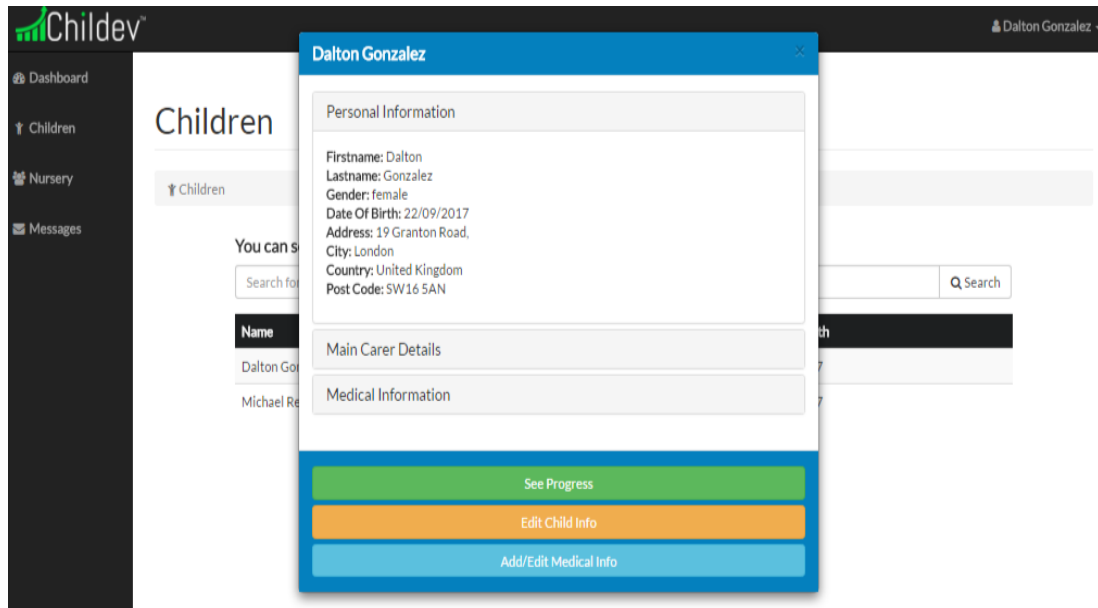


Figure A.21: Children section for Parents

1. See all of his Children attending the Nursery and their details (figure A.21).
2. Edit the details and medical records of his Children (figure A.22).

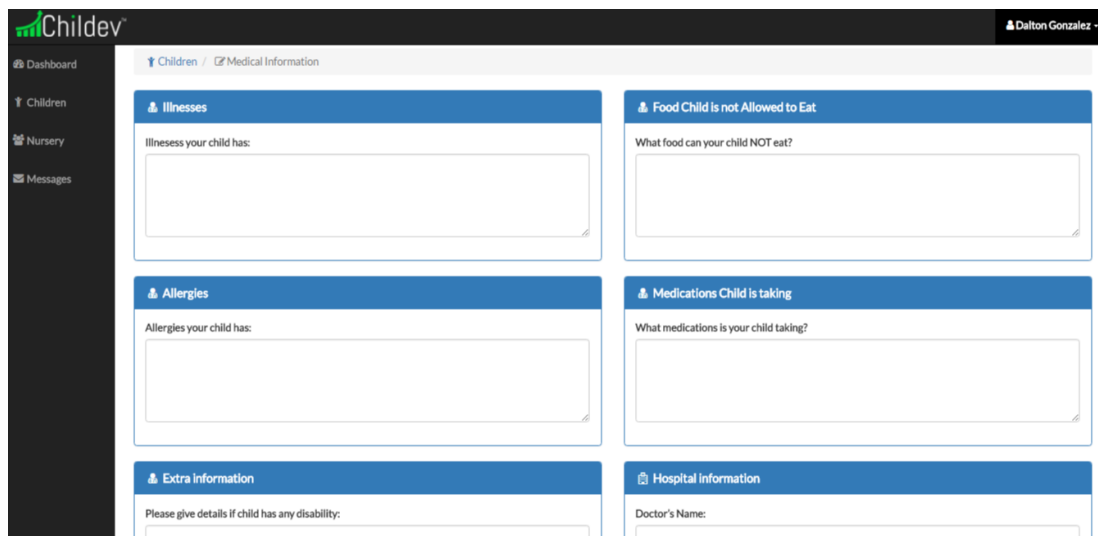


Figure A.22: Medical records of a child.

3. Access the Children Development Visualization page to see the progress that a child has made in the nursery during a specific period of time.

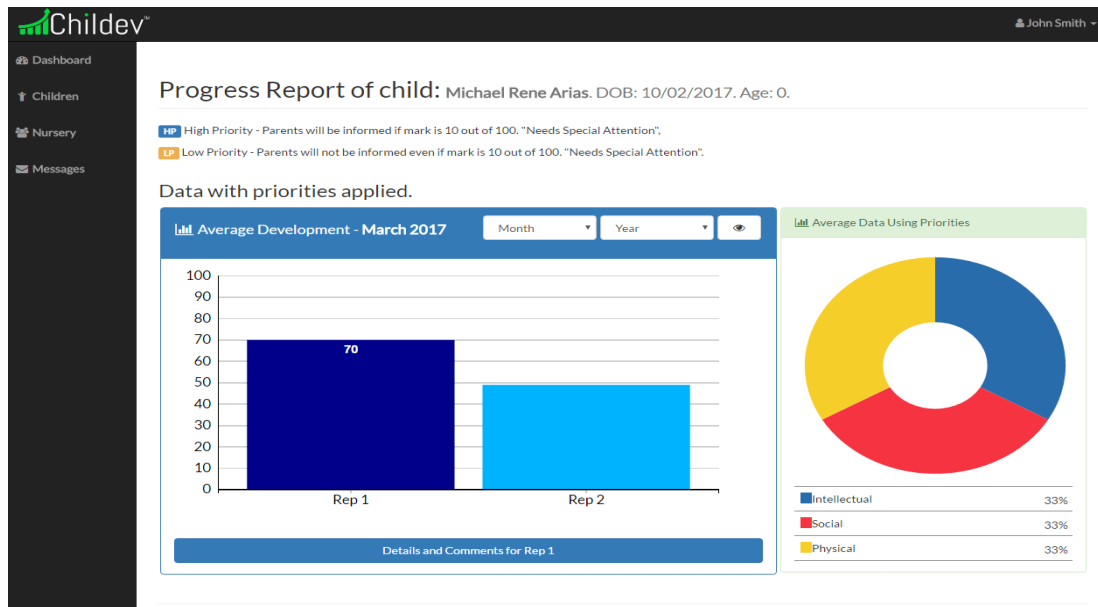


Figure A.23: Graph that displays the different reports of a child.

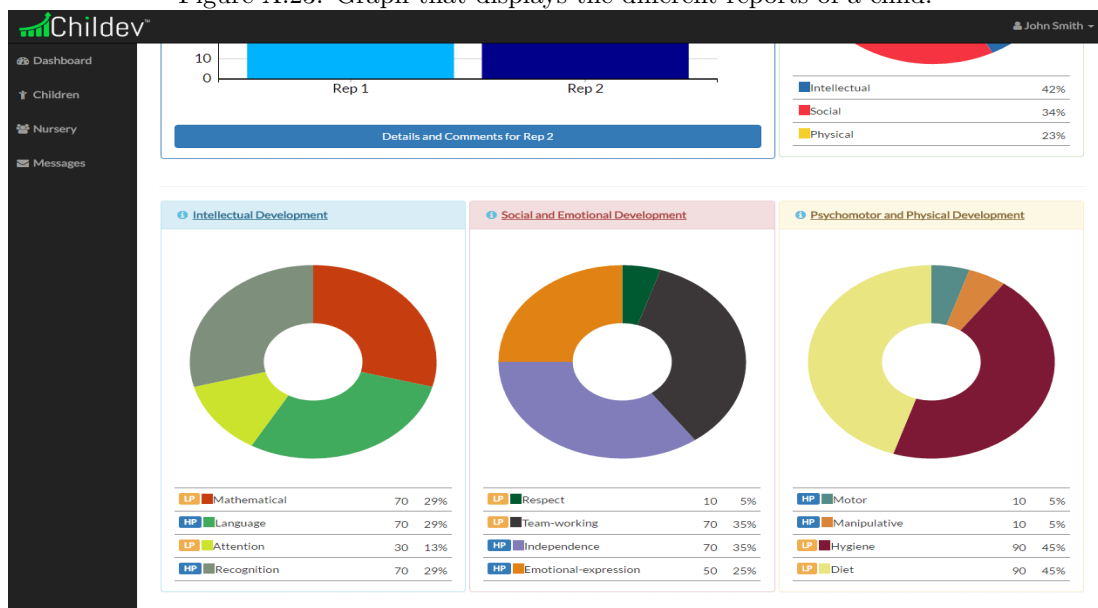


Figure A.24: Graphs that display the marks that a child received for a specific report.

- Nursery, from which the parent will be able to:
  1. See the complete information of the Nursery.
  2. See all the Teachers working at the Nursery and their details.
  3. Send a message to the manager of the Nursery or any of the teachers working at the Nursery.

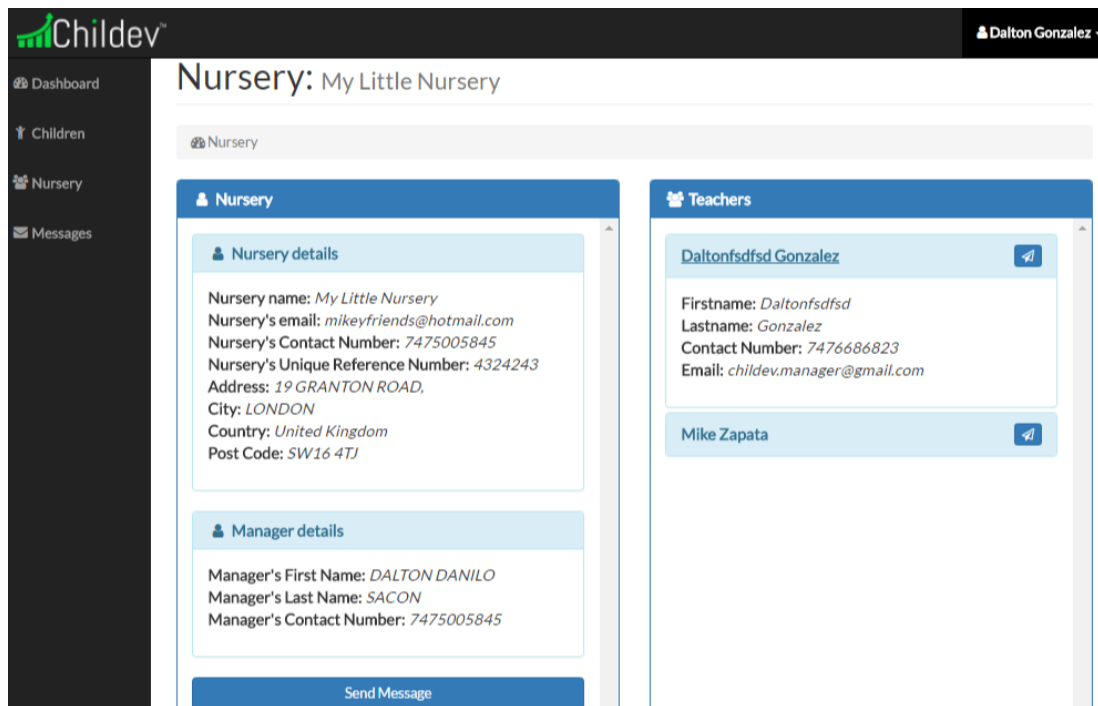


Figure A.25: Information of a Nursery and its staff.