

CS2832 – Modular Software Development
Group Project Report

Project Name: Web Based Donation System.

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1.Introduction

1.1 Purpose

The purpose of this report is to provide a detailed description of a web based donation system (Impel Academy) which will aid the Sri Lankan School children who are need of financial assistance. This includes system functionalities, characteristics and constraints under which it must operate and how system reacts to external stimuli.

1.2 Scope

This document will describe all the requirements and characteristics of the system and the design constraints of the system that influence the implementation of the project. Technical and implementation details would not be covered in this document.

This web based software is created to full fill the educational requirements and wellbeing of Sri Lankan students who are in need of resources. Following is the procedure.

- There are three types of users in this system and we are the administrators. Students, donors and moderators are the three types of users.
- Students, donors and moderators sign up to the web site.
- Moderators are to avoid fraud and to make user the security and safety of students.
- Only teachers and principals are registered as moderators. So we confirm whether the signed up moderators are teachers or principals by physically verifying. Then we register them as moderators.
- We register student accounts with the verification of moderators. Then we display their profiles to the donors.
- If the student doesn't have a NIC we allow their parents to create the student accounts.

1.3 Definitions, acronyms and abbreviations

Student	The child in need of financial assistance
Donor/Donor Institute Student	The outside parties who are willing assist the
Parent /Guardian	The parent or guardian of the student who would carry out the operations on behalf of the child (minor)
Moderator	The validation person of the information of the student preferable a teacher or principal
System Administrator	Validator of the Moderator through the backend of the system and responsible for the operation of the website.
Donation	The action of providing an amount of financial assistance to a student by a donor or donor institute.

2.Overview Description

This website would focus on linking the students who are need of financial donations and the donors or donor institutes who are willing to extend their support in order to enhance the well being of the students. Thus the website will function as a portal where the donors and the students will be able to meet, hence this would be beneficial for the society.

The students would be able to create accounts in the website where they would be able to update all their information so that the donors would have the required information to help out the students. Since the students are under aged their parent or guardian would have to carry out these tasks on behalf of the students.

Also the donors would also will be able to have their accounts and keep tabs on the students who they have donated and the current status of the donation. Also they would be able to access the students who are in need of aid and their information.

Furthermore, there would Moderators in order to validate the information provided by the students and to ensure that they are true are correct in order to avoid any frauds and false information. Also a System Administrator would be appointed in order to ensure that the task of the Moderator is also carried out properly. This validation would be carried through the backend of the system.

Hence in brief the system would act as a platform for the Sri Lankan Students who arte in need of financial aid the well wishing donors. The Design specifications of the system the functionalities along with the validation and security implications are discussed in detailed in the following sections of the report.

3. System Requirement Document

1. Specific Requirements

1.1 Functional Requirements

1.1.1 Submit an application

Students or parents of students have to fill an application giving their details to the website.

1.1.2 Information verification

Moderators confirm the information given by students.

1.1.3 Create, change and delete account data

The system should have the ability to insert, edit and delete the account data of the users. Users can only insert the data currently. But future editing and deleting the information of the user accounts will be available.

1.1.4 User Interfaces

- Our web page is very user friendly and accessible under low speed internet connections also.
- Web site contains low written details as this page is accessed by rural area students. So it is easy to understand them the procedure of the web site.

1.2 Non Functional Requirements

1.2.1 Three types of user accounts

Students, donors and moderators are three types of users. So they should different types of accessing methods to access the web site. So we have creates three types of user accounts. These users can see only the relevant information.

1.2.2 View Application status

Donors can see only the details of approved students. Moderators and students can't see the details of donors. So the privacy of donors is secured.

1.3 Design Constraints

1.3.1 Very simple interface.

As this is web based, user can easily access this from anywhere that can surf the internet. No need to go here and there.

1.3.2 Easily upgradable website

The web site is designed using HTML5, JavaScript, CSS, mySQL and PHP. So this can be updated easily.

1.4 Assumptions

- All students, moderators and donors are able to reach a computer or mobile device with the internet access and they are with computer literacy.
- After verifying the moderators we believe that they will not cheat or misuse this web site.

1.5 Technologies

Dreamweaver is the PHP framework that we used for the PHP coding. While testing we used XAMPP server as the server for website.

4.Design Specification

4.1 Assumptions

- Since children who are in need of our service are under aged we assume the recommendations Guardians, Principal and Teachers provide are real and unbiased.
If theft is detected, we will take necessary actions to remove the relevant parties.
- The information submitted by relevant parties is truthful and can be validated from external parties if necessary. Especially not only from recipient's side, but the information supplied from Donors side has to be validated. Because of this, system administrators will refer to external sources such as CRIB in order to confirm the authenticity of the donor.
- Needy Children, Donors and moderators have to sign up with separate accounts. Since the role played by moderators is critical, the admin panel will contact them to confirm the authenticity. The moderators include Teachers and Principal of relevant student.

4.2 Design Constraints

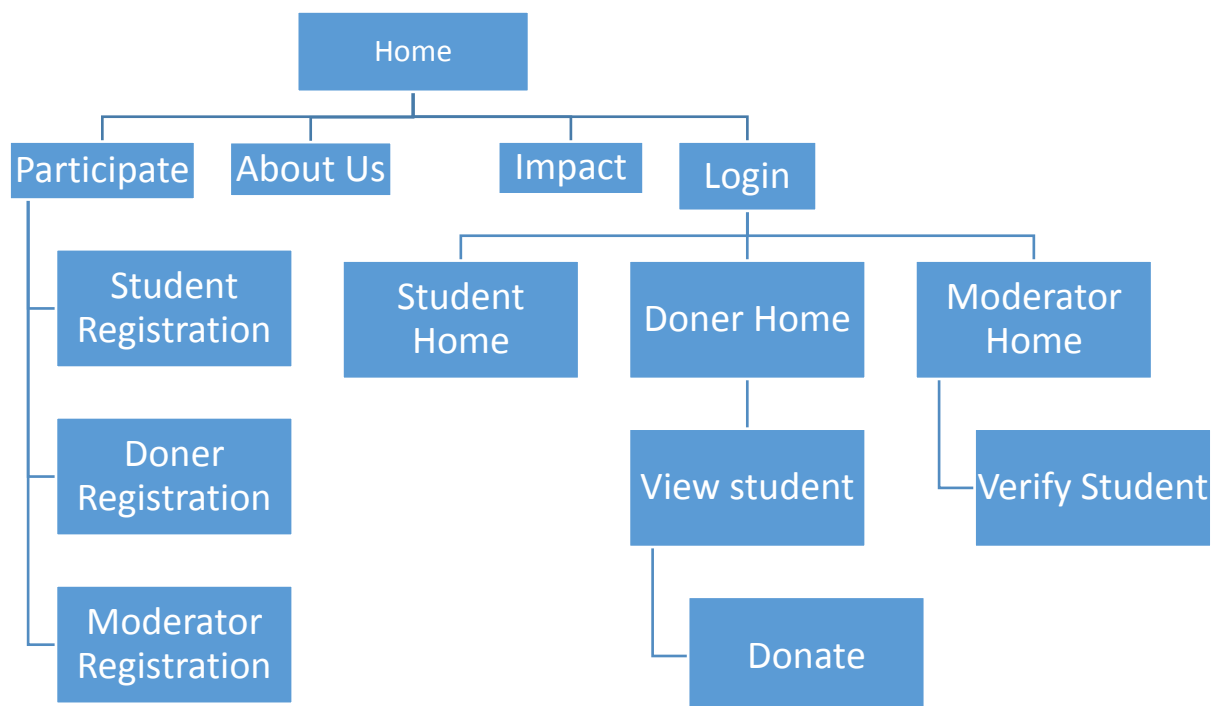
In the platform we designed there are following constraints.

- i) Validation: This is the major constraint we faced when implementing this project. There is no proper system inside the platform to validate the information provide by users. This is a critical issue we should address since the transparency of the system depends on the authenticity of the information provided. If theft was detected it has a negative effect on the goodwill of the Impel Academy. In order to overcome this constraint we use external communication. However, when the number of users increase rapidly this method is not reliable.
- ii) Security. This website database includes sensitive information such as financial information of different parties. Although the passwords are hashed, SQL injection is possible. Thus there is a risk of data leaks.
- iii) Mobile Friendliness: At present it's advisory to design a website with easy mobile access. However, our system still doesn't

support mobile environment. We are hoping to work on that and to provide a mobile friendly environment.

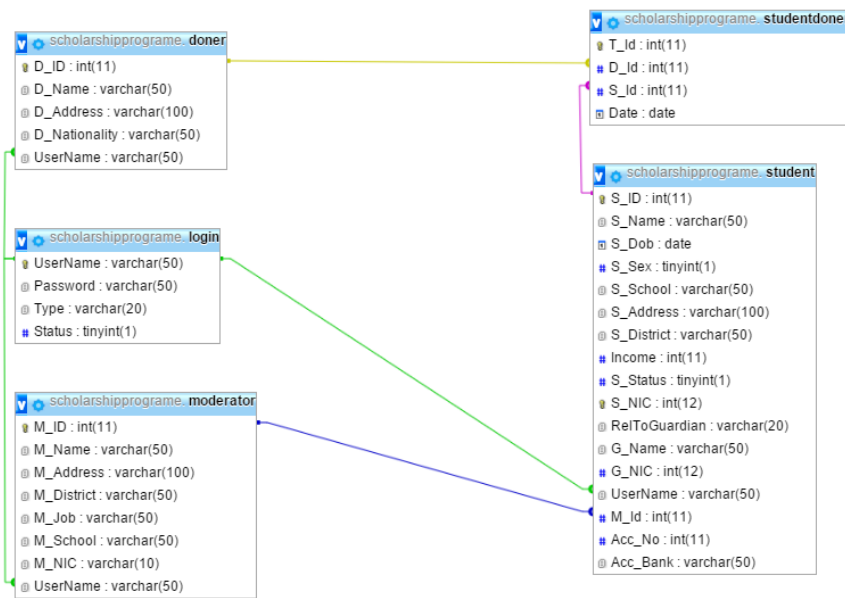
- iv) Payment method: We have not included a proper Electronic payment method in our website such as Paypal payments, standard modes of payments like Master Card, Visa Card etc. Thus no validation method for the proper implementation of the transaction is not included.
- v) No integration with the bank account of the Student. Syncing bank Account and the system account of the student would allow the student and their guardians to access his/her financial information with ease.

4.3 System Environment



4.4 Database design.

We identified two possible ways to design the database for this website. The first approach is the normalization of data fields and the second approach was using ERD. However, we used Normalization method in our system. We normalized up to the 3rd normal form and then denormalized for simplicity. Then the logical design was implemented on a MySQL database using php myadmin interface.



4.5 Design Methodology

4.5.1 Children

Basically the children who enroll with this service are of lower age. The information they have to submit in order to register with this service are ID No, Name, Date of Birth, Sex, School Name, Residence Address, District, Income level of the family, Relation to the Guardian provided in the website.

4.5.2 Parent/Guardian

Parents have to provide the following information.
Guardian Name, Guardian NIC, Username, Bank A/C No, Bank Details.

4.5.3 Donor/Donor Institute.

The following information are acquired from the donor.
ID No, Name, Address, Nationality, Username.

4.5.4 Mentor(Principal/Teacher)

This is the sector of the moderator. The following information acquired. ID No, Name, Address, District, Job, School, NIC, Username.

5. Technical Specification

5.1 Performance

The website is supported by almost all the devices in use. The website has a simple design and therefore the entire website takes only a space less than 1MB with the inclusion of images. Therefore the time taken to load the website won't be affected much by the speed of the internet connection. In other words, users in rural areas won't have much difficulty in accessing the website. Also the number of users accessing the website won't have an effect on the accessibility of the website. Typical MySQL supports up to 10000 users.

5.2 Usability

The database is very user oriented, it will only take a couple of minutes to create and validate a user account. Even a less IT knowledgeable person can create an account easily. The design is very simple and only basic information is needed to create an account. The website has links for quick navigation, so it's very less time consuming. After the account is validated, the services offered by the website can be accessed instantly.

5.3 Reliability

The server is active 24/7 therefore the users can access the website from anywhere, at any time. Server failures won't occur as the services of an external data center is obtained to ensure reliability. The user accounts won't be deleted unless authorized by the user and the user account won't be logged out of unless permitted by the user.

5.4 Security

The user privacy is valued very much therefore we ensure the security of the user details very much. The passwords can't be phished as MD5 hashing is used. Even though SQL injection can be done, it can be prevented as well to ensure the security of the database.

5.5 Data integrity

Database is normalized up to the third normal form therefore data duplication is prevented. Then it's de-normalized for simplicity, as very complex operations won't be done. Therefore this saves storage space.

5.6 Data validation

Password validation schemes are implemented. Dropdown lists are also provided when appropriate to prevent erroneous data entering. These schemes ensure the accuracy of the database.

5.7 Supportability

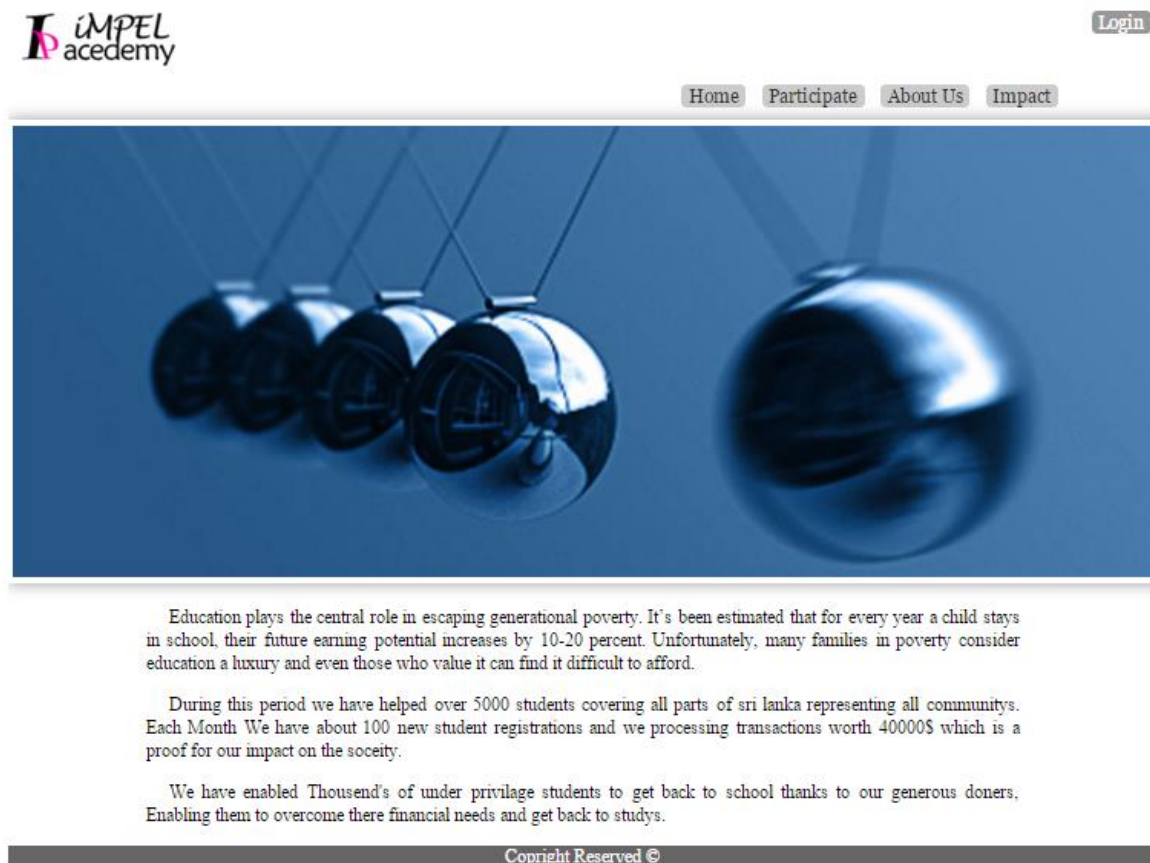
The website is supported by almost all the devices in use and the website can even be accessed from mobile devices, owing to its simple design.

6. Implementation of the system

6.1 User Interface Design

6.1.1 General User Interface

The general website consists of web pages regarding the basic information of the sites, the login page, signup page. The interface has been kept simple so that the site is usable to the average knowledgeable users.



Log in to your account

<input type="text" value="Username"/>
<input type="password" value="Password"/>
<input type="button" value="Clear"/> <input type="button" value="Login"/>

Are you still not a member? [Click Here](#)



Need Help?

Are you Needing any scholarship? then join the community and get helped. its really simple just craete an account then after validation, when a Doner interested in you, youl be connected to him.

[Join Us](#)



Like to Donate?

Would you like to serve the human kind? then join us, be a part of our doners. your donations could make big difference in their life. Support the School childrens of your own choice.

[Join Us](#)



Help them to Connect

Want to help us?, then help Us to verify the Students. verify the students so the doners could actually help real students who are in need. Be a part of our community of teachers and principals.

[Join Us](#)

A banner image for the 'About us' section. It shows a close-up of a hand in a dark suit reaching out towards the viewer. In the background, two other people in business attire are blurred, suggesting a professional setting.

About us

We are a non profit organization whose mission is to aid school children's, and thereby empowering communities. Our main is to create a higher standard for early childhood education in rural areas of Sri Lanka

Mutual respect and collaboration help in the achieving of this goal. There is nothing more rewarding, for us, than recognizing that you are making a difference, even if it is just a smile. And we tend to forget about those little things.

We believes in creating a facility of early childhood education that the community can sustain; that a community is empowered to; and the community can take ownership of.

Contact Us

Call us at +94-011-1234123

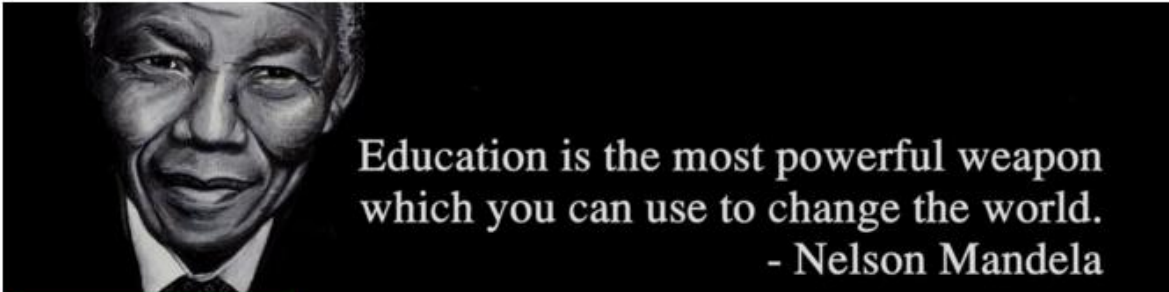
112, Mill Road, Katubedda, Sri Lanka

E-Mail asa@gmail.com


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6.1.2 Student User Interface

The Student can register into the account by simply filling the required information which are necessary and create an account. After the account is created the Student can login into his account. Where he would be able view the details of his donor and the amount of the donations.



Education is the most powerful weapon
which you can use to change the world.
- Nelson Mandela

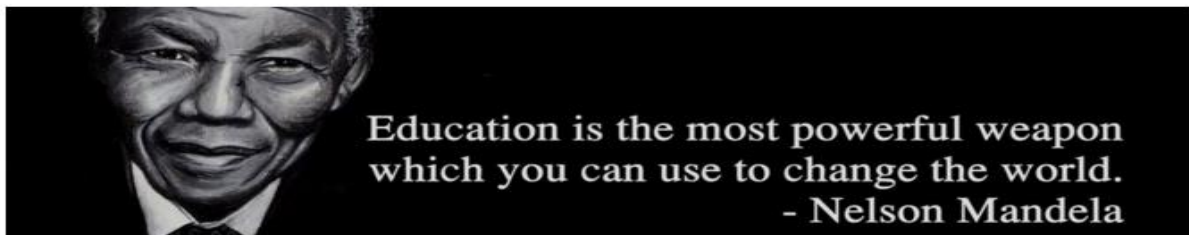


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Student Registration Form

Name	<input type="text"/>
Date of birth	<input type="text" value="mm/dd/yyyy"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
Address	<input type="text"/>
District	<input type="text" value="Ampara"/>
School	<input type="text"/>
Income Of Family	<input type="text"/>
Have NIC	<input checked="" type="radio"/> Yes <input type="radio"/> No
NIC	<input type="text"/>
Choose a User Name	<input type="text"/>
Choose a Password	<input type="text"/>
Re-type the Password	<input type="text"/>
Bank	<input type="text" value="Bank Of Ceylon"/>
Account Number	<input type="text"/>
<input type="button" value="Clear"/> <input type="button" value="Create Account"/>	

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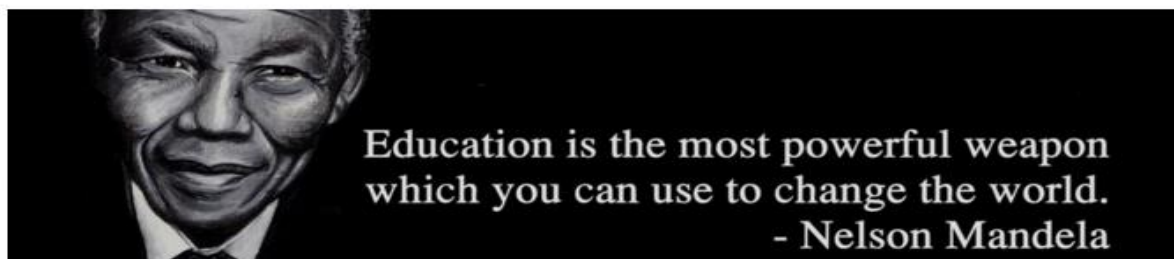


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Student Registration Form

Name	Asanka
Date of birth	04/01/1993
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
Address	Kuliyapitiya
District	Kurunegala
School	Kuliyapitiya Central
Income Of Family	10000
Have NIC	<input checked="" type="radio"/> Yes <input type="radio"/> No
NIC	930584777
Choose a User Name	Asanka
Choose a Password	***
Re-type the Password	***
Bank	Bank Of Ceylon
Account Number	782155995
<input type="button" value="Clear"/> <input type="button" value="Create Account"/>	

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Welcome Asanka

Date	Doner
2016-01-25	ijaz

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6.1.3 Moderator

The Moderator can register into the account by filling in the details. After the account is created the System Administrator would validate the Moderator as mentioned in the previous sections of the report. The Moderators profile would have the students who need to be verified so the moderator could verify the particular student if he/she knows that the details are true and correct.



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THE BEST IN STUDENTS.”**

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Moderator Registration Form

Name	<input type="text"/>
Address	<input type="text"/>
NIC	<input type="text"/>
District	<input type="text" value="Ampara"/>
Occupation	<input type="text" value="Principal"/>
School	<input type="text"/>
Choose a User Name	<input type="text"/>
Choose a Password	<input type="text"/>
Re-type the Password	<input type="text"/>
<input type="button" value="Clear"/> <input type="button" value="Create Account"/>	

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Welcome Ifham

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Name	Age	School	District	
Asanka	22	Kuliyapitiya Central	Kurunegala	View Student
Chirath	22	Aananda	Colombo	View Student
Yuvin	22	DS Senanayaka	Colombo	View Student

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Name Asanka
Age 22 years
Sex Male
School Kuliyapitiya Central
District Kurunegala
Monthly Income 10000 Rs
NIC 930584777

[Verify](#)

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6.1.4 Donor

The Donor can register into the account by simply filling the required information which are necessary and create an account. After the account is created the Donor can login into his account. Where he would be able view the details of the donations he has done and also the information of the students they have given donations to. Furthermore they can further view a list of students who need their assistance and all those details would be accessible through the interface created to the Donors.



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OR CAN EASE THE PAIN OF ONE PARENT, THOSE
FUNDS ARE WELL SPENT.”**

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Donor Registration Form

Name	<input type="text"/>
Address	<input type="text"/>
Nationality	<input type="text" value="Sri Lanka"/>
Choose a User Name	<input type="text"/>
Choose a Password	<input type="password"/>
Re-type the Password	<input type="password"/>
<input type="button" value="Clear"/> <input type="button" value="Create Account"/>	

**“IF THE MONEY WE DONATE HELPS ONE CHILD
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Donor Registration Form

Name
Address
Nationality
Choose a User Name
Choose a Password
Re-type the Password

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Help By Donating 5\$

Name
Age
Monthly Income
Scholarship Ammount
Card Number
Pin Number
Expiry Date

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OR CAN EASE THE PAIN OF ONE PARENT, THOSE
FUNDS ARE WELL SPENT.”**

Welcome ijjaz

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Students In Need

Name	Age	School	District	Monthly Income	
Asanka	22	Kuliapitiya Central	Kurunegala	10000	View Student
Chirath	22	Aananda	Colombo	5000	View Student
Yuvin	22	DS Senanayaka	Colombo	10000	View Student

Your Good Deeds

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Students In Need

Name	Age	School	District	Monthly Income	
Chirath	22	Aananda	Colombo	5000	View Student
Yuvin	22	DS Senanayaka	Colombo	10000	View Student

Your Good Deeds

Name	Address	Monthly Income	Date
Asanka	Kuliapitiya	10000	2016-01-25

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7. Appendices

Appendix of selected pages are attached as another separate document.