

**Kwetu home of peace institution**



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# 1.0 Introduction: Institution history

Kwetu children’s home is a charitable non-governmental institution in Nairobi. It rescues street boys and re-habilitate them. It was established in 1993, by the Catholic church due to the large and increasing number of children on the street. The institution believed that even the street children have the potential to change their status, be productive and with good nurture, guidance and counselling, they can lead a successful life and better the society

Kwetu Home of Peace Rescues, Rehabilitates and Reintegrates the street boys between the age of eight to twelve years. The institution’s main dedication is to love, give dignity and hope to these street boys, enable them identify their talents, educate them, and change their lives for a better future. The institution also strives to making the streets more secure and safe.

The institution core values include: spiritual nourishment, that is leading the boys according to the word of God -the bible. Discipline and respect being the center of concern towards their development and change. Giving them freedom to participate in decision that concerns and benefit them. Teaching the kids to love one another and live in unity, because they are family and the family is the basic unit of care, protection and support to them.

Kwetu Home of Peace has it’s main center in Ruai and a branch in Madaraka. When the boys are rescued from the streets, they are taken to Madaraka from the rehabilitation for a period of two years. For those who have parents or guidance but were separated from them, do not stay in the home for long. After the rehabilitation, the boys are reintegrated with their parents or guidance, and those without family are relocated to Ruai, the main center. Through rehabilitation, the boys are changed from a situation of high risk and no tomorrow to a situation of peace and security where there is a tomorrow.

## 1.1Institution objectives

Kwetu Home of Peace is built on strong Christian values and virtues. Their objectives towards the achievement of their mission include:

(1) To improve the community’s structure and make it more safe and secure.

(2) To protect the children’s rights, by reducing or preventing them from becoming street children.

(3) To identify, rescue and rehabilitate the Nairobi street boys.

(4) To facilitate reunion of the rehabilitated boys with their families -for those who were lost or separated from their parents or guidance due some circumstances.

(5) To manage and mobilize resources required to put the program into effect and make it successful.

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## 1.2 Institution Mission

To Rescue, Rehabilitate and Reintegrate the Nairobi street boys, through love and discipline, back to their family, or make them part of the family, depending on their circumstances.

## 1.3 Vision

To transform the street boys, through guidance and counselling, to enable them achieve their potential.

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# 2.0 Database functionality

A database is a collection of organized information, to make it easily accessible, updateable and manageable. I propose to use MySQL as the core relational database management system (RDBMS) mainly for its reputed security and data integrity. The RDBMS will enable users to create a database, insert data, such as the details of the street boys rescued, those that united with their families, those relocated to Ruai, the institution well-wisher, the staffs, and other stakeholders. The system will be reliable and store data for future reference. Authorized users will be able to retrievable info when required. Users should be able to update the database -such as when more information need to be added or changed about an existing attribute. In addition, RDBMS also allows the selection of specific or random data depending on the user’s search and also deletion of information.

The database will be developed using MySQL because it is an open source software and free. The database will be easy to migrate, easy to understand because it stores data in a tabular form.

## 2.1 Database system

### 2.1.1 Scope

The system will be developed using MySQL database running on the SQL server in xampp. The database will have six tables, including: the children, well-wishers, employees, supplier, mentors and friends of Kwetu (FOK) entities. Each entity will have several attributes of specific datatypes (such as character, integer) depending on their interaction with the system. Data stored in the database will be encrypted for data security purposes, tables will be normalized to avoid data redundancy and will be modifiable to meet the changing needs of the users and institution.

The system should generate monthly reports of the newly rescued boys and their progress and other information that will be useful to interesting parties (such as the community around). For the system development, a functioning computer or laptop is required, the xampp software, a data designer and the programmer.



Fig 2.1. Shows the physical schema of the database.

## 2.2 Data integrity constraints

These are a set of conditions that a relation must follows to make it valid. It ensures that the data entered conforms to the guidelines as specified by the database designer. The constraints are very important during the database design and are more critical than other functionalities, without them, the data inserted into the database will not be effective and efficient, even though the database exist. These integrity constraints apply to the entire database and they include:

### Not null constraints

Restricts a column from having a null value.

### Unique constraints

It ensures that a field or column only has unique values, this help prevent data redundancy.

### Primary key constraints

It ensures that each table has an attribute that uniquely identifies it. It puts into consideration both not null and unique constraints.

### Foreign key constraints

Foreign key is a key in one table that is a primary key in another table. It is used to relate two or more tables. It shows relationships. The ERD above shows how the entities relate to each other. The relation show that the entity interacts with the institution.

Other non-functional requirements include data security. Sensitive data in the database such as password must be hashed so that if anyone accesses the backend of the databases, the sensitive institution information is not accessible.

The important relationships in the database are: suppliers to resources, well-wishers to resources, mentors to children and employees to resources relationships. These relationships are basic to the functionality of the institution and achievement their mission.

# 3.0 Requirements specification

The database developed will be linked to a system and host it online to enable accessibility and availability. Requirements specification is a description of what the system must do to make it effective and efficient. The main requirements are: functional and non-functional requirements.

## 3.1 Functional requirements

Refers to the services and functionalities that the system must perform and what it should not do, how it should to certain input. These requirements are dependent on the system developed, the expected users, and the proposed software. It deals with both user and system requirements.

Functional user requirements describe the functionalities that the system must perform to meet user needs while functional system requirements are statements of the system functionalities and services. The web based system must enable users (such as employees) to insert data (for instance children’s details) into the database. The interested stakeholders -such as suppliers should be able to retrieve information from the database and keep track of their supplies of resources. The database should be able to store data and generate reports after certain duration as specified by the database designer. The system also should enable users to delete data from the database especially if the data becomes useless or it is causing redundancy. An example of useless data is when an employee no longer exists in the institution, maintaining their information occupies space making it more expensive. The solution is deletion of their details. The users should also be able to update the database data.

## 3.2 Non-functional requirements

These are constraints that the system must provide to make it effective and efficient. Without non-functional requirements, the system will still function but less effective. There are several non-functional requirements and they improve the quality of the system.

The system must be acceptable by the users for which it was designed. It should be user friendly and meets the needs of the organization. This means developing the system right.

It should be efficient. The system should not make wastage use of resources. Data should only be entered once. Useless data must be deleted from the system.

The system must dependable and trustworthy. Users should be able to create an account once. The system should authenticate users before enabling them access to an account. This will prevent an authorized user from accessing data.

It should be reliable, in that, the database will be able to store data for future reference. Several users are able to access the system and the data at the same time. The sensitive data store in the data is encrypted, in case an intruder hacks into the system. The data stored should be available when needed.

System maintenance. It must evolve to meet the changing needs of the organization and it’s users. The database and the website must be updated and upgraded from time to time. Requirements never remain constant.

Functional requirements

requirements

Non-requirements

User requirements

System requirements

Dependability

Reliability

Acceptability

Maintenance

Efficiency

Fig 3.1. A summary of the requirement specification.