System Requirements Statement (SRS) –

School Management System

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# Introduction

This document explains the system requirements and scope for developing School Management System. School Management System is divided the four main parts:

* Root admin part
* Admin Part
* Teacher part
* Student part.

This document describes the system requirement of every Account part.

# Functional Requirements

The Account part of School Management System has 4 modules which are divided 24 processes described as below.

|  |  |  |
| --- | --- | --- |
| **No** | **BRS requirement ID** | **Description** |
| **2.1** | **Root Admin Module** | |
| **2.1.1** | **F1** | **Login Process** |
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| **2.1.3** | **F3** | **Change Password Process** |
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| **2.1.5** | **F5** | **View Profile** |
| **2.1.6** | **F6** | **View all Students** |
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| **2.1.10** | **F10** | **Edit Student Details** |
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| **2.1.13** | **F13** | **Delete Teacher** |
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| **2.2.1** | **F14** | **Login Process** |
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| **2.2.3** | **F17** | **View Profile** |
| **2.2.4** | **F18** | **View all Students** |
| **2.2.5** | **F19** | **Update Attendance** |
| **2.2.6** | **F20** | **Give Remarks/Feedback** |
| **2.3 Student Module** | | |
| **2.3.1** | **F21** | **Login Process** |
| **2.3.2** | **F22** | **Account verification process** |
| **2.3.3** | **F23** | **View Profile** |
| **2.3.4** | **F24** | **View all Remarks/Feedback(Subject-wise)** |
| **2.3.5** | **F25** | **View Attendance** |
| **2.4** | **Admin Module** | |
| **2.4.1** | **F26** | **Login Process** |
| **2.4.2** | **F27** | **Account Creation Process** |
| **2.4.3** | **F28** | **Account verification process** |
| **2.4.4** | **F29** | **Change Password Process** |
| **2.4.5** | **F30** | **Update Account Process** |
| **2.4.6** | **F31** | **View Profile** |
| **2.4.7** | **F32** | **View all Students** |
| **2.4.8** | **F33** | **View all Teachers** |
| **2.4.9** | **F34** | **Register New Student** |
| **2.4.10** | **F35** | **Register New Teacher** |
| **2.4.11** | **F36** | **Edit Student Details** |
| **2.4.12** | **F37** | **Edit Teacher Details** |
| **2.4.13** | **F38** | **Delete Student** |
| **2.4.14** | **F39** | **Delete Teacher** |

## Root Admin Module

* Root Admin is the root user of system.
* Root Admin has all the rights of the system.
* Root Admin can register another user as admin.
* Root Admin can view complete details of all students of the School.
* Root Admin can add a new student, update or delete an existing student.
* Root Admin can view complete details of all teachers of the School.
* Root Admin can add a new teacher, update or delete an existing teacher.

### Login Process

* School Management System always compels user authentication before using itself.
* School Management System does not provide any rights to other actors for adding a new actor except for the root Admin. Hence, only root Admin can login at first.
* The default username and password should be provided at first or the root Admin credentials should be provided to access the system.
* The user authentication demands Username and Password. The Username and the Password should be checked in three ways.
  + First, The Username and the Password should be existed and correct.
* If, The email ID and the Password are not equal to the default or root Admin credentials, the user authentication cannot be provided.
  + Second, the User Type linked to the Username should be "ADMIN".
* When the User Type is "ADMIN ", then user can be placed on “ADMIN Home Page”.
  + Finally, Username should be available.
* The Administrator can decide whether the account associated with Username is active or not.
* If account is de-activated, user authentication is not provided for system user.
* The Admin account should alive for as long as the duration decided by Admin.
* Only when the three checks are successfully completed, admin can be placed on respected page.
* The “Admin Home” provides the some items described as below.

1. A trigger to profile(edit profile, password change/update)
2. A trigger to update Account
3. A trigger to Change Password
   * All items are compulsory demanded.
   * Username

* The username should be unique. If the username correspond with not case-sensitive to other which is previously registered, the email should not be registered as an account.
  + Password
* The Password has constrains which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

1. Numeric figure (at least one)
2. Capital alphabet (A-Z)(at least one)
3. Small alphabet (a-z)(at least one)
4. Special character (#, $, %, &, etc.) (at least one)

* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in SCHOOL MANAGEMENT SYSTEM.

### Account verification process

Admin account verification process would be done by providing an OTP on the registered contact details.

### Forgot Password Process

* When system user lost their Password, the recovery method should be provided by SCHOOL MANAGEMENT SYSTEM.

The recovery method is described as below.

* + First, system user enters their email ID/contact no SCHOOL MANAGEMENT SYSTEM.
  + When admin click on forget password option, he/she will get an OTP on the registered E-mail/contact no which also has been registered since when the Account was created.
  + After authentication of OTP, he/she will be redirected to the change password process.
* Root Admin will get the option for creating the new password.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.

### Change Password Process

* When root admin wants to change their Password, the measure/facility should be provided by SCHOOL MANAGEMENT SYSTEM
* Therefore SCHOOL MANAGEMENT SYSTEM should provide the function which is available after getting the Admin authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, admin will be able to change their Password.
* When the current password is changed into new password, SCHOOL MANAGEMENT SYSTEM compels user authentication again.

### Update Account Process

* SCHOOL MANAGEMENT SYSTEM should provide the function to which root Admin can update his/her account.
* The information root Admin could update is described below.

1. Login information

* The Other information

The updatable items as described below.

1. Institute Name
2. Aadhar Card No
   * All items are compulsory demanded, but updating is optional.

### View Profile

* View profile conditions are described as below.

1. Login information
2. Contact information
3. E-mail address
4. Institute Name
5. Aadhar Card No

### View All Students

1. Root Admin can view all the students list which are admitted to the school till the date.

### View All Teachers

1. Root Admin can view all the teachers list which are recruited by the school till the date.

### Register New Student

* Root Admin can register/admit new student.
* The information Root Admin should be able to add is as follows:

1. Username
2. Password
3. Email
4. First Name
5. Last Name
6. Attendance
7. Standard
8. Contact Information

* The Contact Information should be as follows:

1. Address
2. Contact Number

### Register New Teacher

* Root Admin can register/admit new teacher.
* The information Root Admin should be able to add is as follows:

1. Username
2. Password
3. Email
4. Name
5. Contact Information
6. Qualification

* The Contact Information should be as follows:

1. Address
2. Contact Number

### Edit Student Details

* Root Admin can edit the details of an existing student.
* Username should be allowed to edit or update. It will be same as it was at the time of admission.
* The information Root Admin should be able to edit is as follows:

1. Password
2. Email
3. First Name
4. Last Name
5. Attendance
6. Standard
7. Contact Information

* The Contact Information should be as follows:

1. Address
2. Contact Number

### Edit Teacher Details

* Root Admin can edit the details of an existing teacher.
* Username should be allowed to edit or update. It will be same as it was at the time of admission.
* The information Root Admin should be able to edit is as follows:

1. Password
2. Email
3. Name
4. Contact Information
5. Qualification

* The Contact Information should be as follows:

1. Address
2. Contact Number

### Delete Student

* Root Admin should be able to delete an existing student from the record.

### Delete Teacher

* Root Admin should be able to delete an existing teacher from the record.

## Teacher Module

* Teacher is the user of system who teaches to students.
* Teacher is the user of system who can update attendance.
* Teacher is the user of system who can add a remark/feedback to the student.
* Teacher can view the student list admitted in the school.
* Teacher can see student attendance and also update it.
* Teacher can add a remark or add a feedback to a particular student as per the subject.

### Login Process

* School Management System always compels user authentication before using itself.
* School Management System does not provide any rights to other actors for adding a new actor except for the root Admin. Hence, only root Admin can register a teacher.
* The username and password should be provided at first by the root Admin/Admin to access the system.
* The user authentication demands Username and Password. The Username and the Password should be checked in three ways.
  + First, The Username and the Password should be existed and correct.
* If, The Username and the Password are not equal to the registered credentials, the user authentication cannot be provided.
  + Second, the User Type linked to the Username should be "TEACHER".
* When the User Type is "TEACHER ", then user can be placed on “TEACHER Home Page”.
  + Finally, Username should be available.
* The Administrator can decide whether the account associated with Username is active or not.
* If account is de-activated, user authentication is not provided for system user.
* The Teacher account should alive for as long as the duration decided by Admin.
* Only when the three checks are successfully completed, teacher can be placed on respected page.
* The “Teacher Home” provides the some items described as below.
* A trigger to view profile
* A trigger to View Student list
* A trigger to Update Student Attendance
* A trigger to add feedback to Student
* A trigger to add a remark to Student
  + All items are compulsory demanded.
  + Username
* The username should be unique. If the username corresponds with not case-sensitive to other which is previously registered, the username should not be registered as an account.
  + Password
* The Password has constraints which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

1. Numeric figure (at least one)
2. Capital alphabet (A-Z)(at least one)
3. Small alphabet (a-z)(at least one)
4. Special character (#, $, %, &, etc.) (at least one)

* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in SCHOOL MANAGEMENT SYSTEM.

### Account verification process

#### Admin account verification process would be done by providing an OTP on the registered contact details.

### View Profile

* View profile conditions are described as below.
* Login information
* Contact information

### View All Students

1. Root Admin can view all the students list which are admitted to the school till the date.

### Update Attendance

### Teacher should be able to update attendance of every student.

### Give Remarks/Feedback

* Teacher should be able to give remarks for any student (if any).
* The function demands the facility to provide remarks to any student.
* Teacher should be able to provide feedback to any student (if any).
* Teacher should be able to write remarks as per the subject.

## **Student Module**

* Student is the user of system who learns from the system.
* Student can view his progress from this system.
* Student can see the feedbacks or remarks provided by the teacher as per subject.

### Login Process

* School Management System always compels user authentication before using itself.
* School Management System does not provide any rights to other actors for adding a new actor except for the root Admin. Hence, only root Admin can register a student.
* The username and password should be provided at first by the root Admin/Admin to access the system.
* The user authentication demands Username and Password. The Username and the Password should be checked in three ways.
  + First, The Username and the Password should be existed and correct.
* If, The Username and the Password are not equal to the registered credentials, the user authentication cannot be provided.
  + Second, the User Type linked to the Username should be "STUDENT".
* When the User Type is "STUDENT ", then user can be placed on “STUDENT Home Page”.
  + Finally, Username should be available.
* The Administrator can decide whether the account associated with Username is active or not.
* If account is de-activated, user authentication is not provided for system user.
* The Student account should be active for so long as the duration decided by Admin.
* Only when the three checks are successfully completed, student can be placed on respected page.
* The “Student Home” provides the some items described as below.
  1. A trigger to view profile
  2. A trigger to View Feedbacks
  3. A trigger to view Remarks
  4. A trigger to view attendance
  + All items are compulsory demanded.
  + Username
* The username should be unique. If the username corresponds with not case-sensitive to other which is previously registered, the username should not be registered as an account.
  + Password
* The Password has constraints which makes the Password consists of more than or equal 8 and less than or equal 16 characteristics including characters described as below.

1. Numeric figure (at least one)
2. Capital alphabet (A-Z)(at least one)
3. Small alphabet (a-z)(at least one)
4. Special character (#, $, %, &, etc.) (at least one)

* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in SCHOOL MANAGEMENT SYSTEM.

### Account verification process

### Admin account verification process would be done by providing an OTP on the registered contact details.

### View Profile

* View profile conditions are described as below.
* Login information
* Contact information

### View All Feedbacks

1. Student can view all the feedback list which is given by the teacher to the student as per the subject till the date.
2. Student can view the remarks he/she got in a subject.

## Admin Module

* Admin has all the rights of the system.
* Admin can register another user as admin.
* Admin can view complete details of all students of the School.
* Admin can add a new student, update or delete an existing student.
* Admin can view complete details of all teachers of the School.
* Admin can add a new teacher, update or delete an existing teacher.

### Login Process

* School Management System always compels user authentication before using itself.
* School Management System does not provide any rights to other actors for adding a new actor except for the root Admin. Hence, only root Admin can login at first.
* The user authentication demands Username and Password. The Username and the Password should be checked in three ways.
  + First, The Username and the Password should be existed and correct.
* If, The email ID and the Password are not equal to the default or root Admin credentials, the user authentication cannot be provided.
  + Second, the User Type linked to the Username should be "ADMIN".
* When the User Type is "ADMIN ", then user can be placed on “ADMIN Home Page”.
  + Finally, Username should be available.
* The Administrator can decide whether the account associated with Username is active or not.
* If account is de-activated, user authentication is not provided for system user.
* The Admin account should alive for as long as the duration decided by Root Admin.
* Only when the three checks are successfully completed, admin can be placed on respected page.
* The “Admin Home” provides the some items described as below.

1. A trigger to profile(edit profile, password change/update)
2. A trigger to update Account
3. A trigger to Change Password
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* The username should be unique. If the username correspond with not case-sensitive to other which is previously registered, the email should not be registered as an account.
  + Password
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1. Numeric figure (at least one)
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* The Password is masked by dummy characters. The re-entering Password is demanded.
* The Password must be encrypted in SCHOOL MANAGEMENT SYSTEM.

### Account verification process

* Admin account verification process would be done by providing an OTP on the registered contact details.

### Forgot Password Process

* When system user lost their Password, the recovery method should be provided by SCHOOL MANAGEMENT SYSTEM.

The recovery method is described as below.

* + First, system user enters their email ID/contact no SCHOOL MANAGEMENT SYSTEM.
  + When admin click on forget password option, he/she will get an OTP on the registered E-mail/contact no which also has been registered since when the Account was created.
  + After authentication of OTP, he/she will be redirected to the change password process.
* Admin will get the option for creating the new password.
* Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.

### Change Password Process

* When root admin wants to change their Password, the measure/facility should be provided by SCHOOL MANAGEMENT SYSTEM
* Therefore, SCHOOL MANAGEMENT SYSTEM should provide the function which is available after getting the admin authentication.
* The function demands the current password and the new password.
  + Of course, the new password should consist of more than or equal 8 and less than or equal 16 characteristics including at least a numeric figure, a capital alphabet, a small alphabet, and a special character.
  + The current password and the new password are masked by using dummy characters.
  + The new password is demanded to enter twice to avoid a typing error.
* Only when the current password is correct, admin will be able to change their Password.
* When the current password is changed into new password, SCHOOL MANAGEMENT SYSTEM compels user authentication again.

### Update Account Process

* SCHOOL MANAGEMENT SYSTEM should provide the function to which Admin can update his/her account.
* The information root Admin could update is described below.
  + - 1. Login information
* The Other information

The updatable items as described below.

1. Institute Name
2. Aadhar Card No
   * All items are compulsory demanded, but updating is optional.

### View Profile

* View profile conditions are described as below.

1. Login information
2. Contact information
3. E-mail address
4. Institute Name
5. Aadhar Card No

### View All Students

* + Admin can view all the students list which are admitted to the school till the date.

### View All Teachers

* Admin can view all the teachers list which are recruited by the school till the date.

### Register New Student

* Admin can register/admit new student.
* The information Admin should be able to add is as follows:
* Username
* Password
* Email
* First Name
* Last Name
* Attendance
* Standard
* Contact Information
* The Contact Information should be as follows:
* Address
* Contact Number

### Register New Teacher

* Admin can register/admit new teacher.
* The information Admin should be able to add is as follows:
* Username
* Password
* Email
* Name
* Contact Information
* Qualification
* The Contact Information should be as follows:
* Address
* Contact Number

### Edit Student Details

* Admin can edit the details of an existing student.
* Username should be allowed to edit or update. It will be same as it was at the time of admission.
* The information Admin should be able to edit is as follows:
* Password
* Email
* First Name
* Last Name
* Attendance
* Standard
* Contact Information
* The Contact Information should be as follows:
* Address
* Contact Number

### Edit Teacher Details

* Admin can edit the details of an existing teacher.
* Username should be allowed to edit or update. It will be same as it was at the time of admission.
* The information Admin should be able to edit is as follows:
* Password
* Email
* Name
* Contact Information
* Qualification
* The Contact Information should be as follows:
* Address
* Contact Number

### Delete Student

* Admin should be able to delete an existing student from the record.

### Delete Teacher

* Admin should be able to delete an existing teacher from the record.

## Use Case Diagram

**Admin:**

Figure 1 Use Case Diagram- Admin

1. In Admin, use case diagram Admin is the Actor.
2. Admin can handle following use cases:
3. Register Student and teacher
4. Login
5. View Profile
6. View List of student and teacher
7. Update student and teacher details

**Teacher:**

Figure 2 Use Case Diagram - Teacher

1. In Teacher use case diagram, Teacher is the Actor.
2. Teacher can handle following use cases:
3. Login
4. View Profile
5. View list of students
6. Update attendance
7. Feedback

**Student:**

Figure 3 Use Case Diagram- Student

1. In Student use case diagram, Student is the Actor.
2. Student can handle following use cases:
3. Login
4. View Profile
5. View Feedbacks