

# Med Scribe Professional

## Requirements Document

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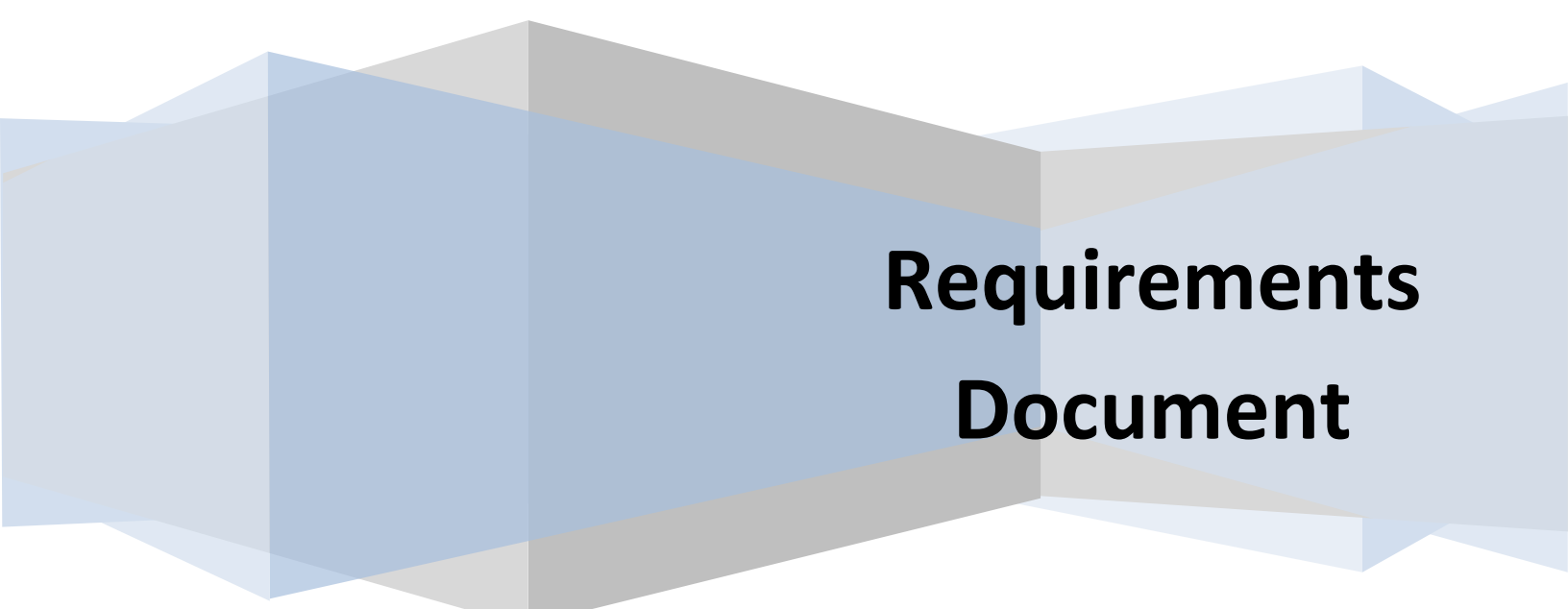
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**Requirements  
Document**

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# 1 System Context and Scope

## 1.1 Abstract

The product Med Scribe Professional hereafter referred to as “Med Scribe Pro” is a web based service application that allows patients, doctors to share Electronic Medical Records (EMR) and Electronic Health Records (EHR) in an easy to use online setting. The system will also provide a means for digital prescriptions to exist between doctors, patients, and pharmacists.

## 1.2 Project Goals

The overall goal of this project is to develop an online application that will allow doctors, patients, and pharmacists to share important medical information related to the patient via secure online application. The system should also manage digital prescriptions between Doctors, Pharmacists and Patients.

The application should achieve the following:

- Allow Doctors, Pharmacists, and Patients to communicate and share information.
- Allow Doctors to write digital prescriptions that can be sent directly to the Pharmacist.
- Store the Electronic Medical Records of all Patients and allow Patients to set viewing permissions.
- Allow the Doctors to view the Patient’s Electronic Medical Records if they have permission.
- Reduce/Eliminate paper work transferred between Doctors, Patients, and Pharmacists.

# 2 Users

## 2.1 User Groups

There will four (4) distinct User Groups used in the Med Scribe Pro Application. Each user group will dictate what functions and features a user is able to perform. Each different user group will be presented with different Front End Interfaces to meet the needs of that user group.

The application should implement the following User Groups:

- **Doctor:** A person who has an M.D. degree and approved by authorities to practice as Medical Doctor to treat patients, physician or dentist.
- **Patient:** A person who receives medical care, treatment, or care by one or more doctors.
- **Pharmacist:** A person who is trained to work in pharmacy to provide patients with prescribed medications.
- **System Administrator:** A person who is responsible to maintain and operate the Med Scribe Pro System.

## 3 Doctor Requirements

### 3.1 Doctor Registration

**Type:** Functional

**Description:** To use the system the doctor should register online with Med Scribe Pro. In order to register a doctor will need a valid email address and medical identification number (MID). The MID is an identification number that needs to agree with a Doctors Database authenticating the Doctor.

**Scenario:** The registration process will prompt for “Name”, “Username” (created by the user), and “Password” (created by the user). After registering the doctor will receive a validation email. In order to activate their account, the doctor must follow the link provided in the verification email. After following the link the doctor will be prompted to enter his\her Practice Information.

**Priority:** High

**Dependencies:** Joomla!, and Server Support for PHP & MySQL, MID/Doctors Database

### 3.2 Doctor Log In

**Type:** Functional

**Description:** After a doctor has registered with Med Scribe Pro he/she should log into the system using the login form located on the home page. The doctor should also be able to request and recover their username and/or password.

**Scenario:** To Log in the doctor will need their Username and password that they created during the registration process. After logging into the system the doctor will have access to the Doctor Front End. If the doctor’s username or password has been lost they can be recovered from a link on the login form.

**Priority:** High

**Dependencies:** Joomla!, and Server Support for PHP & MySQL

### 3.3 Doctor Front End

**Type:** Functional

**Description:** The Doctor Front End should give doctor access to all of the features available for the doctor group. The Doctor Front End features should include the following sections:

- Practice Info
- Access Medical Records
- Write Prescriptions
- Communications

**Priority:** High

**Dependencies:** Requires that the Doctor is registered with the system

#### 3.3.1 Practice Info (Doctor Front End)

**Type:** Functional

**Description:** The Practice Info section should allow the doctor to update their personal and practice information. This section should also allow the doctor to view other doctors that are members of the same Practice (Office).

**Scenario:** This section allows doctors to update their practice address, phone numbers, website, and email address. It also displays other doctors that are part of the same Practice (Office).

**Priority:** Medium

**Dependencies:** Requires that the Doctor is registered with the system

### 3.3.2 Access Medical Records (Doctor Front End)

**Type:** Functional

**Description:** The Access Medical Records section should allow the doctor to view the medical records of patients that have given that doctor proper permissions. The doctor should also be able to add and attach medical documents to the patient's record.

**Scenario:** This section allows doctors to view a patients electronic medical records as defined by the permissions set by the patient. The doctor is able to attach and update information that they have created to the patient's record.

**Priority:** High

**Dependencies:** Requires that the Doctor is registered with the system and has permissions from patient

### 3.3.3 Write Prescriptions (Doctor Front End)

**Type:** Functional

**Description:** The doctor should be able to write a digital prescription for the patient.

**Scenario:** The doctor writes a digital prescription. The doctor may also modify the prescription status such as quantity or how duration of use for the patient.

**Priority:** High

**Dependencies:** Requires that the Doctor is registered with the system

### 3.3.4 Communication (Doctor Front End)

**Type:** Functional

**Description:** The doctor shall be able to communicate with other doctors, patients, and pharmacists via integrated message system or Email.

**Scenario:** The doctor has a question about a patient's allergies and needs to consult a nutrition doctor who has worked with the patient. The doctor follows up with the patient sending the patient a message of his findings.

**Priority:** Low

**Dependencies:** Joomla! and PHP MySQL server support.

## 4 Pharmacist Requirements

### 4.1 Pharmacist Registration

**Type:** Functional

**Description:** To use the system the Pharmacist should register online with Med Scribe Pro. In order to register a pharmacist will need a valid email address and medical identification number (MID). The MID is an identification number that needs to agree with a Pharmacist Database authenticating the

Pharmacist.

**Scenario:** The registration process will prompt for “Name”, “Username” (created by the user), and “Password” (created by the user). After registering the pharmacist will receive a validation email. In order to activate their account, the pharmacist must follow the link provided in the verification email. After following the link the pharmacist will be prompted to enter his\her Pharmacy Information.

**Priority:** High

**Dependencies:** Joomla!, and Server Support for PHP & MySQL, MID/Pharmacist Database

## 4.2 Pharmacist Log In

**Type:** Functional

**Description:** After a pharmacist has registered with Med Scribe Pro he/she should log into the system using the login form located on the home page. The pharmacist should also be able to request and recover their username and/or password.

**Scenario:** To Log in the pharmacist will need their Username and password that they created during the registration process. After logging into the system the pharmacist will have access to the Pharmacy Front End. If the pharmacist’s username or password has been lost they can be recovered from a link on the login form.

**Priority:** High

**Dependencies:** Joomla! and Server Support for PHP & MySQL

## 4.3 Pharmacy Front End

**Type:** Functional

**Description:** The Pharmacy Front End should give doctor access to all of the features available for the pharmacist group. The Pharmacy Front End features should include the following sections:

- Pharmacy Info
- Fill Prescriptions
- Communications

**Priority:** High

**Dependencies:** Requires that the Pharmacist is registered with the system

### 4.3.1 Pharmacy Info (Pharmacy Front End)

**Type:** Functional

**Description:** The Pharmacy Info section should allow the Pharmacist to update their personal and pharmacy information. This section should also allow the pharmacist to view other pharmacists that are members of the same Pharmacy.

**Scenario:** This section allows pharmacists to update their pharmacy address, phone numbers, website, and email address. It also displays other pharmacists that are part of the same pharmacy.

**Priority:** Medium

**Dependencies:** Requires that the Pharmacist is registered with the system

### 4.3.2 Fill Prescriptions (Pharmacy Front End)

**Type:** Functional

**Description:** The Fill Prescriptions Section should allow Pharmacists to search for patient's information by last name, or date of birth, or patient MID. After filling the prescription the pharmacist should be able to change the prescription status to filled and the date shall be attached. The system should also display other information the patient is using and flag any medications that do not work together.

**Scenario:** The Pharmacist looks up a patient to fill a prescription. The pharmacist is able to see other medications that the patient is using and gets confirmation that there are no conflicting medications. The pharmacist fills the prescription and the date is attached to the patients file.

**Priority:** High

**Dependencies:** Pharmacist is registered, Medication Conflict Database (Med Flagging)

### 4.3.3 Communications (Pharmacy Front End)

**Type:** Functional

**Description:** The pharmacist should be able to communicate with other pharmacists, patients, and doctors via integrated message system or Email. Pharmacists should have the option to attach a prescription to their communication.

**Scenario:** The pharmacist fills a patient's prescription and writes a comment on how to use the medication effectively; the comment is then attached to the prescription and can be viewed by the patient.

**Priority:** Low

**Dependencies:** Joomla! and PHP MySQL server support.

## 5 Patient Requirements

### 5.1 Patient Registration

**Type:** Functional

**Description:** To use the system the patient must register online with Med Scribe Pro. In order to register a patient will need a valid email address and medical identification number (MID). The MID is an identification number that is assigned to a patient.

**Scenario:** The registration process will prompt for "Name", "Username" (created by the user), and "Password" (created by the user). After registering the patient will receive a validation email. In order to activate their account, the patient must follow the link provided in the verification email.

**Priority:** High

**Dependencies:** Joomla!, and Server Support for PHP & MySQL

### 5.2 Patient Log In

**Type:** Functional

**Description:** After a patient has registered with Med Scribe Pro he/she should log into the system using the login form located on the home page. The patient should also be able to request and recover their username and/or password.

**Scenario:** To Log in the patient will need their Username and password that they created during the registration process. After logging into the system the patient will have access to the Patient Front End. If the patient's username or password has been lost they can be recovered from a link on the login form.

**Priority:** High

**Dependencies:** Joomla!, and Server Support for PHP & MySQL

## 5.3 Patient Front End

**Type:** Functional

**Description:** The patient front end should give patient access to all of the features available for the patient group. The patient front end features should include the following sections:

- Personal Info
- Medical Records
- Prescriptions
- My Doctors
- My Pharmacy

**Priority:** High

**Dependencies:** Requires that the Patients is registered with the system

### 5.3.1 Personal Info (Patient Front End)

**Type:** Functional

**Description:** The Personal Info section should allow the patient to update their personal information.

**Scenario:** This section allows patients to update their address, phone numbers, emergency contact, and email address.

**Priority:** High

**Dependencies:** Requires that the Patients is registered with the system

### 5.3.2 Medical Records (Patient Front End)

**Type:** Functional

**Description:** The Medical Record section should allow patients to access their Electronic Medical Records (EMR). The patient should be able to browse through their records by date range, Doctor, Location, or viewing their entire file. The patient should also be able to print his/her medical records.

**Scenario:** This section allows the patients to access their Electronic Medical Records (EMR)

**Priority:** High

**Dependencies:** Requires that the Patients is registered with the system

### 5.3.3 Prescriptions (Patient Front End)

**Type:** Functional

**Description:** The Prescriptions section should allow the patient to send a prescription to a selected pharmacy (Drop Down Menu). It should also allow patients to view all medications they have been prescribed and information about those medications such as instructions and notes.

**Scenario:** The patient is prescribed a medication and needs to have the prescription filled at his/ her

local pharmacy.

**Priority:** High

**Dependencies:** Requires that the Pharmacy Section has been implemented.

### 5.3.4 My Doctors (Patient Front End)

**Type:** Functional

**Description:** The My Doctors section should allow patients to give Doctors permission to view their Electronic Medical Records (EMR). The patient should be able to choose to give a doctor full access to all their medical records or give them access to certain sections of their records such as dental for Dentists or physical for physicians. Patients should also be able to remove a Doctor's permissions from this section and/or add Doctors as well.

**Scenario:** The patient gives doctors permission to view certain sections of or their entire electronic medical record. The patient may also need to add or remove doctors.

**Priority:** High

**Dependencies:** Requires that the patients Doctor is registered with the system

### 5.3.5 My Pharmacy (Patient Front End)

**Type:** Functional

**Description:** The My Pharmacy section should allow patients to send their prescriptions to the pharmacy of their choice. The patient should be able to add and remove pharmacies or make a pharmacy their default pharmacy. Pharmacies added to the patient's pharmacy list should be granted permission to fill prescriptions. Pharmacists who are part of the pharmacy should inherit permissions to fill prescriptions.

**Scenario:** The patient adds a pharmacy to their list and then selects one of their pharmacies to become their default pharmacy.

**Priority:** High

**Dependencies:** Requires that the patients Pharmacy is registered with the system

## 6 Admin Requirements

### 6.1 Admin Registration

**Type:** Functional

**Description:** Administrators should first register as a patient online with Med Scribe Pro. Administrator user access should be granted Admin permissions by the Super Administrator through the user manager feature integrated into the Joomla! back end. Administrators should not be system users. Administrators will maintain and develop the Med Scribe Pro Project.

**Scenario:** The registration process takes place in the patient registration. The Super Administrator grants admin permissions to the Admin.

**Priority:** High

**Dependencies:** Requires Super Administrators Approval

## 6.2 Admin Log In

**Type:** Functional

**Description:** After receiving admin rights from the Super Administrator, an administrator should log in through the Joomla! back end Admin Login. The admin login should be accessed through:

<http://www.medscribepro.com/administrator>

**Scenario:** The Admin has been granted permissions by the Super Administrator. The Admin needs to Log In to make changes to the System. The Admin logs in using the username and password they created.

**Priority:** High

**Dependencies:** Requires the user to have Admin Permissions

## 6.3 Admin Features

**Type:** Functional

**Description:** After successfully logging in to the Administration Login, the Admin should find many options to maintain the system and it's users. The Admin features should implement the Joomla! Admin Back End to manage these features. For additional information on using these Joomla! Admin features please see the Joomla! documentation at: <http://docs.joomla.org/Administrators>

**Scenario:** The admin needs to make changes to user accounts, code, information, or databases.

**Priority:** High

**Dependencies:** Joomla! and PHP MySQL Server Support

## 6.4 Admin Development

**Type:** Functional

**Description:** Admin Users are in place for the purpose of development and testing. Some updates may need to be made by directly editing the mySQL databases and via File Transfer Protocol (FTP) with the server. This type of access should be left to the Super Administrator.

**Scenario:** **Priority:** High

**Dependencies:** Super Administrator controls FTP and phpMyAdmin

## 6.5 Admin Testing

**Type:** Functional

**Description:** Through Admin control, dummy accounts should be created for each user group. These dummy accounts should remain active until the completion of the project.

**Scenario:** Dummy Accounts need to be created for testing purposes. To note dummy accounts properly dummy accounts should have the user names (dummy\_doc01, dummy\_pharm01, dummy\_pat01, etc.)

**Priority:** Medium

**Dependencies:** Requires creation of new dummy accounts

## 7 User Benefits

### 7.1 Benefits for Users

Each user group has many benefits that change the current medical industry drastically. In the United States the medical industry has been slow to implementing information technology. Most healthcare transactions have taken place on paper until now. With an application such as Med Scribe Professional the medical industry can save money and save lives.

### 7.2 Doctor Benefits

Doctors will be able to use the Med Scribe Professional System to keep better organized and cut down on physical paper. Because Med Scribe Pro relies on all digital records doctors will not need to print and file these documents. These documents can also be viewed at anytime by the patient and other doctors who the patient has granted permissions to.

When a prescription is necessary the doctor will be able to write a digital prescription that is sent directly to the database to be retrieved by any registered pharmacist. This will help eliminate problems in deciphering the doctors hand written prescriptions and make prescriptions more efficient and reliable.

### 7.3 Pharmacist Benefits

Pharmacists will be able to use the Med Scribe Professional System to cut down on physical paper prescriptions and flag medications that do not work properly together. Because some medications conflict the pharmacist should have the responsibility to make sure patients are not using a combination of medications that could potentially harm them. This system could save many lives.

### 7.4 Patient Benefits

The patient is the primary user of the Med Scribe Professional System. Med Scribe Pro allows patients to have complete control of their Electronic Medical Record, and set permissions to who has access to view the records.

The patient will also have the ability to send prescriptions to the pharmacy of their choice and Retrieve the history of medications that they have used (often forgotten). The patient also has access to their medication instructions all through one easy application.

## 8 Nonfunctional Requirements

### 8.1 Data Storage

- The system should use databases to hold all information.
- The databases should be safe from data corruption and intrusions.

### 8.2 Third Party Resources

- The system should use Joomla! as the web interface for the application.

- The scripts for the system should use PHP scripting.
- The system should use MySQL databases

### **8.3 Training and System Requirements**

- The interface should be easy to use for all users (Max 1 Day Training).
- The system should provide user manuals for each type of user.
- The system should be compatible on any computer with a web browser.
- The system should operate with a 56k modem connection.

### **8.4 Error Handling and Backup**

- The system should report errors and handle them accordingly.
- The system should keep a log of all transactions over the server.
- The administrator shall be responsible for backing up all data.
- The administrator shall be responsible for server maintenance.
- The system should restart within an hour of system failure.
- The system should have a minimum response time of 1 second.