

PRE-DEV DELIVERABLE 2

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AI – BASED DRUG INTERACTION TRACKER

This application aims to **analyze** through the utilization of artificial intelligence, a wide-ranging variety of patients' medications and supplements, **provide** them with side effect information, **detect** potential conflicts with simultaneous use, as well as **alert** both patient and healthcare providers to conflicts as they arise.

Requirements

REQ₀ : System allows User to **choose a proceeding dialog option.**

- ❖ Sign In
 - Username & Password Log-in
 - Register
 - Patient
 - Provider
- ❖ Medications / Supplements
 - Medications
 - Supplements
 - Side Effects
- ❖ Patient Information
 - Last Name, First Name, Middle Name
 - Date of Birth
 - Social Security Number (optional)
- ❖ Provider Information
 - Provider Details (for Patient)
 - Patient List (for Provider)
 - Patient Information
 - Medications / Supplements
- ❖ Alerts

REQ₁ : System allows Patient and Provider to register Username and Password.

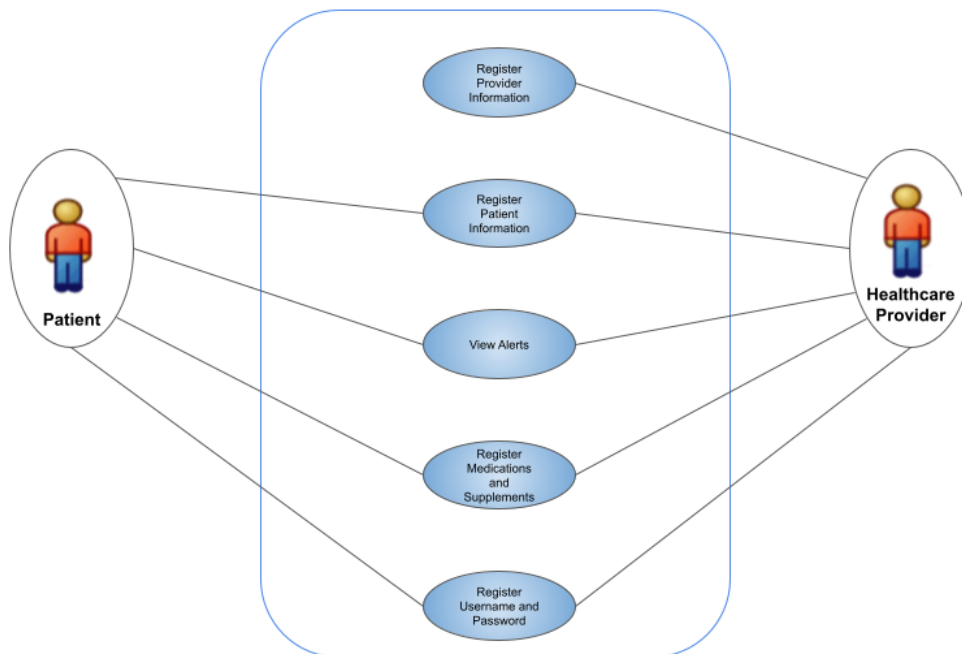
REQ₂ : System allows Patient and Provider to register Patient Information. (editable)

REQ₃ : System allows Provider to register Provider Information (editable)

REQ₄ : System allows Patient and Provider to register Medications and Supplements. (editable)

REQ₅ : System allows Patient and Provider to review Alerts.

Use Case Diagram



Use Cases

Name:	Dashboard
Description:	The software presents the user with a menu to carry out selection of desirable actions
Actor:	System
Entry condition:	Default home-screen of the application
Basic path:	<p>1. System presents the user with a dashboard containing: [E01] [BR01]</p> <ul style="list-style-type: none"> - Sign-In - Medications / Supplements (editable) - Patient Information (editable) - Provider Information (editable-provider only) - Alerts <p>Options:</p> <ul style="list-style-type: none"> --- Sign-In --- Medications / Supplements --- Patient Information --- Provider Information --- Alerts --- Close Application <p>2. User selects Close Application option [A01]</p> <p>3. Use case concluded</p> <p>4. System Closes Application</p>
Alternative paths:	<p>[A01] User selects Sign-In option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System displays the Sign-in screen <p>[A02] User selects Medications/Supplements option [E02]</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System displays the Medication/Supplements screen

	<p>[A03] User selects Patient Information option [E02]</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System displays the Patient Information screen <p>[A04] User selects Provider Information option [E02]</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System displays the Provider Information screen <p>[A05] User selects Alerts option [E02]</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System displays the Alerts screen <p>[A06] User selects Close Application option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System closes
Exception path:	<p>[E01] Dashboard Display Error</p> <ol style="list-style-type: none"> 1. System displays error message indicating failure to load dashboard. 2. Use case follows [A06] of the alternative path. <p>[E02] Unregistered User</p> <ol style="list-style-type: none"> 1. System displays notice to register account. 2. Use case follows [A01] of the alternative path.
Business Rules:	[BR01] User must register a Patient or Provider account to access alternative paths [A02] – [A05]
Data description	Tile-menu with selectable icons and action titles.

Name:	Sign-In
Description:	The software allows the user to carry out the registration (username & password) of a new Patient or Provider account
Actor:	User
Entry condition:	User selects the Sign-In option from the Dashboard
Basic path:	<ol style="list-style-type: none"> 1. System presents a screen for registering Provider/Patient account containing: <ul style="list-style-type: none"> - Username - Password <p>Options:</p> <ul style="list-style-type: none"> --- Patient --- Provider --- Confirm --- Cancel 2. User selects Patient option [A02] [A03] 3. User inputs data and selects Confirm [A03] 4. System verifies information is valid [BR01] [BR02] [E01] 5. System includes new registered account 6. Use case concluded 7. System returns to dashboard
Alternative paths:	<p>[A01] User selects Patient option</p> <ol style="list-style-type: none"> 1. System attributes false 'Provider' Boolean value to user account 2. Use case concluded 3. System returns to step 3 of basic path <p>[A02] User selects Provider option</p> <ol style="list-style-type: none"> 1. System attributes true 'Provider' Boolean value to user account 2. Use case concluded 3. System returns to step 3 of basic path

	[A03] User selects Cancel option <ol style="list-style-type: none"> 1. Use case concluded 2. System returns to the dashboard 				
Exception path:	[E01] Invalid registration information <ol style="list-style-type: none"> 1. System displays error message indicating the existence of invalid information. 2. Use case returns to step 1 of the basic path. 				
Business Rules:	[BR01] Username contains less than 20 characters [BR02] Password contains less than 20 characters				
Data description	Credentials	Type	Length	Mask	
	Provider	Boolean	1	T / F	
	Username	String	20	-	
	Password	String	20	-	

Name:	Medications / Supplements
Description:	The software allows the Patient or Provider to read and maintain (add, edit, delete) medications and supplements, and view side effect information
Actor:	Patient or Provider
Entry condition:	User selects the Medications / Supplements option from the dashboard
Basic path:	<p>1. System presents the Medications / Supplements screen containing:</p> <p>Medications:</p> <ul style="list-style-type: none"> - Brand Name (editable) - Generic Name (editable) - Dosage - milligrams (editable) <p>Supplements:</p> <ul style="list-style-type: none"> - Brand Name (editable) - Generic Name (editable) - Dosage - milligrams (editable) <p>Side Effects:</p> <ul style="list-style-type: none"> - Brand Name - Generic Name - Types <p>Options:</p> <ul style="list-style-type: none"> --- Search --- New --- Edit --- Delete --- Back <p>2. User selects New option [A01] [A02] [A04] [A05]</p> <p>3. System presents a form for entering medication and supplement information containing:</p> <ul style="list-style-type: none"> - Name (editable)

	<ul style="list-style-type: none"> - Generic Name (editable) - Dosage - milligrams (editable) <p>Options:</p> <ul style="list-style-type: none"> --- Confirm --- Cancel <ol style="list-style-type: none"> 4. User inputs data and selects Confirm option [A03] 5. System verifies if the information is valid [BR01] [E01] 6. System includes the new data entry 7. Use case concluded 8. System returns to step 1 of the basic path
Alternative paths:	<p>[A01] User selects Search option</p> <ol style="list-style-type: none"> 1. System presents a search bar considering: <ul style="list-style-type: none"> - Brand Name - Generic Name 2. System presents search matches 3. User selects Cancel option [A03] [A04] [A05] 4. Use case returns to step 1 of the basic path. <p>[A02] User selects Back option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System returns to the dashboard <p>[A03] User selects Cancel option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. Use case returns to step 1 of the basic path <p>[A04] User selects Edit option</p> <ol style="list-style-type: none"> 1. System presents a form for editing the selected medication / supplement containing: <ul style="list-style-type: none"> - Name (editable) - Generic Name (editable) - Dosage - milligrams (editable)

	Options: <ul style="list-style-type: none"> --- Confirm --- Back 2. User inputs data and selects Confirm option [A03] 3. System verifies the information is valid [BR01] [E01] 4. System includes the new data entry 5. Use case is concluded 6. System returns to step 1 of the basic path [A05] User selects Delete option <ul style="list-style-type: none"> 1. System confirms medication / supplement will be deleted 2. User confirms deletion [A03] 3. System excludes the medication / supplement 4. System returns to step 1 of the basic path 					
Exception path:	[E01] Invalid Entry <ul style="list-style-type: none"> 1. System presents error message indicating invalid information. 2. Use case returns to step 3 of the basic path. 					
Business Rules:	[BR01] Must contain Brand Name or Generic Name					
Data description	Name	Type	Length	Mask		
	Brand Name	String	30	-		
	Generic Name	String	30	-		
	Dosage	Integer	4	-		

Name:	Patient Information
Description:	The software allows the Patient or Provider to read and maintain (add, edit, delete) Patient Personal Information
Actor:	Patient or Provider
Entry condition:	User selects the Patient Information option from the dashboard
Basic path:	<ol style="list-style-type: none"> 1. System presents the Patient Information screen containing: <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Date of Birth (editable) - Social Security Number (editable-optional) <p>Options:</p> <ul style="list-style-type: none"> --- Edit --- Confirm --- Back 2. User selects Edit option [A01] 3. System presents a form for editing Patient Information containing: <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Date of Birth (editable) - Social Security Number (editable-optional) <p>Options:</p> <ul style="list-style-type: none"> --- Confirm --- Cancel 4. User inputs data and selects Confirm option [A02] 5. System verifies if the information is valid [BR01] [E01] 6. System includes the new data entry 7. Use case concluded 8. System returns to step 1 of the basic path

Alternative paths:	<p>[A01] User selects Back option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System returns to the dashboard <p>[A02] User selects Cancel option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. The use case returns to step 1 of the basic path 					
Exception path:	<p>[E01] Invalid Entry</p> <ol style="list-style-type: none"> 3. System displays error message indicating invalid information. 4. The use case returns to step 3 of the basic path. 					
Business Rules:	[BR01] Must contain Name and Date of Birth					
Data description	Name	Type	Length	Mask		
	First Name	String	30	-		
	Middle Name	String	30	-		
	Last Name	String	30	-		
	Date of Birth	String	8	XX/XX/XXXX		
	Social Security #	String	14	XXX.XXX.XXX-XX		

Name:	Provider Information
Description:	The software allows the Patient or Provider to read and maintain (add, edit, delete) Patient Personal Information
Actor:	Patient or Provider
Entry condition:	User selects the Provider Information option from the dashboard
Basic path:	<p>1. System presents the Provider Information screen containing: [BR01] [E02]</p> <p>Provider Information:</p> <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Office address (editable) - Phone number (editable) <p>Patient List:</p> <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Date of Birth (editable) - Social Security Number (editable-optional) <p>Options:</p> <ul style="list-style-type: none"> --- Edit --- Confirm --- Back <p>2. User selects Edit option [A01]</p> <p>3. System presents a form for editing Provider Information containing:</p> <p>Provider Information:</p> <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Office address (editable) - Phone number (editable) <p>Patient List:</p> <ul style="list-style-type: none"> - Last Name, First Name, Middle Name (editable) - Date of Birth (editable) - Social Security Number (editable-optional)

	4. User inputs data and selects Confirm option [A02] 5. System verifies if the information is valid [BR01] [E01] 6. System includes the new data entry 7. Use case concluded 8. System returns to step 1 of the basic path				
Alternative paths:	[A01] User selects Back option 3. Use case concluded 4. System returns to the dashboard [A02] User selects Cancel option 3. Use case concluded 4. The use case returns to step 1 of the basic path				
Exception path:	[E01] Invalid Entry 5. System displays error message indicating invalid information. 6. The use case returns to step 3 of the basic path. [E02] Provider Account Required 1. System displays error message indicating Provider account requirement. 2. The use case returns to step 3 of the basic path.				
Business Rules:	[BR01] Must have a Provider account to access and edit				
Data description	Name	Type	Length	Mask	
	First Name	String	30	-	
	Middle Name	String	30	-	
	Last Name	String	30	-	
	Date of Birth	String	8	XX/XX/XXXX	
	Social Security #	String	14	XXX.XXX.XXX-XX	
	Office Address	String	30		
	Phone Number	String	10	(XXX) XXX-XXXX	

Name:	Alerts
Description:	The software allows the Patient or Provider to view past alerts
Actor:	Patient or Provider
Entry condition:	User selects the Alerts option from the dashboard
Basic path:	<ol style="list-style-type: none"> 1. System presents the Alert screen containing a log of: <ul style="list-style-type: none"> - Conflicting drug name one (Brand & Generic Names) - Conflicting drug name two (Brand & Generic Names) - Side effect information <p>Options:</p> <ul style="list-style-type: none"> --- Confirm --- Clear --- Back 2. User selects Confirm option [A01] [A02] 3. System logs the Alert 4. Use case concluded 5. System returns to step 1 of the basic path
Alternative paths:	<p>[A01] User selects Back option</p> <ol style="list-style-type: none"> 1. Use case concluded 2. System returns to the dashboard <p>[A02] User selects Clear option</p> <ol style="list-style-type: none"> 1. System clears the Alert 2. Use case concluded 3. Use case returns to step 1 of the basic path
Exception path:	N / A
Business Rules:	N / A

Data description	Name	Type	Length	Mask	
	Brand Name	String	30	-	
	Generic Name	String	30	-	
	Side Effect	String	30	-	