



GenNex

AT HOME SERVICES USE CASE MODELING AND USER
INTERACTION PROTOTYPING

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INTRODUCTION

GenNex Diagnostics and Devices Ltd, is a diagnostic company with diversified products and service portfolios. We have partnerships with hospitals, insurance companies and hospital networks. We are the pioneers in moving from traditional revenue streams into information services, in healthcare industry.

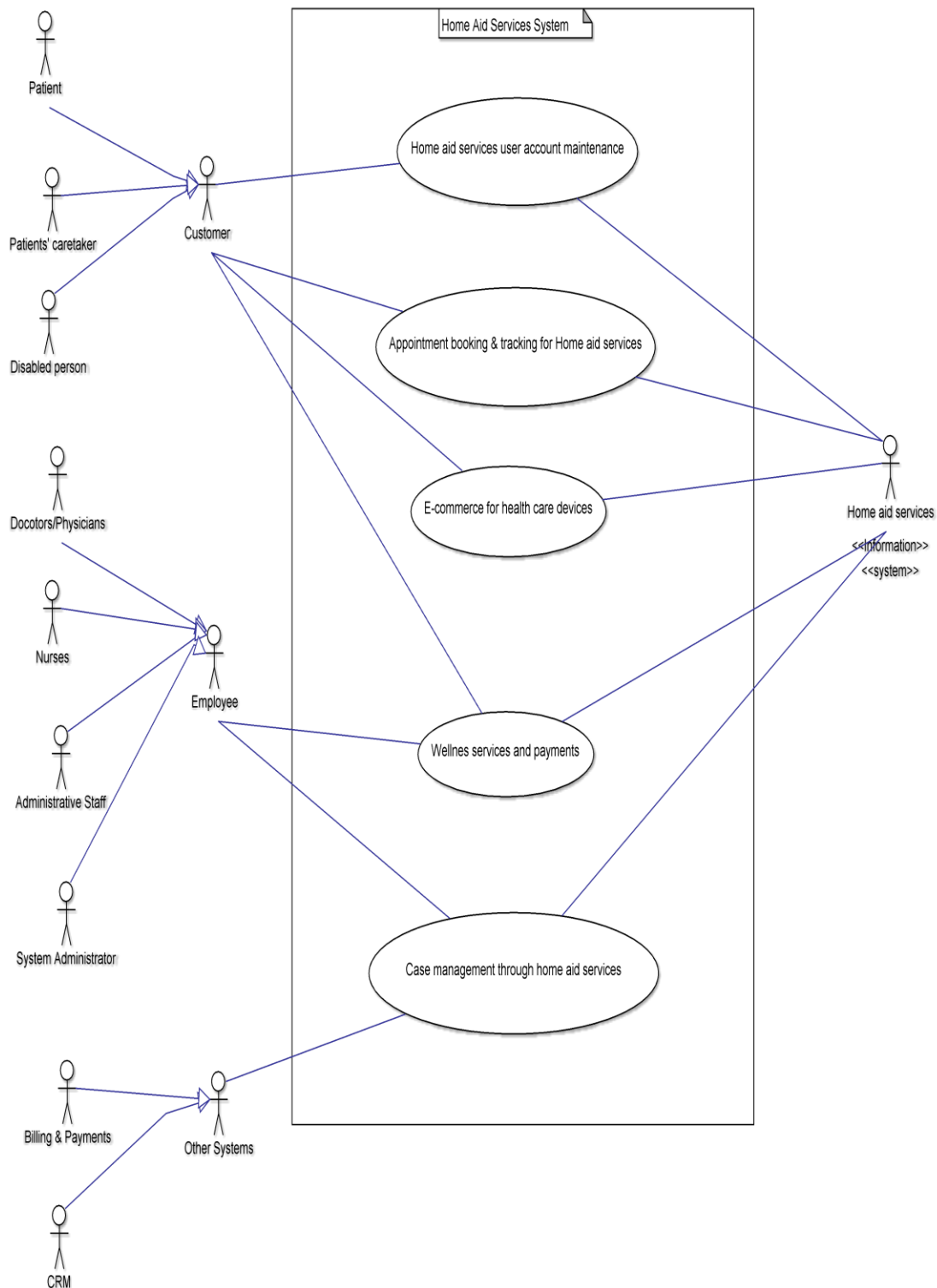
With the changing customer needs and new government regulation (Obama Care) the healthcare industry is changing vigorously in order to improve Health Care in United States of America. GenNex being a forerunner plans to implement outcome-based fee by changing the traditional Fee-for service payment model. The fee-for-service system of payment for health care services is widely thought to be one of the major culprits in driving up U.S. health care costs. This system not only encourages volume but rewards poor quality and provides little incentive for care coordination. GenNex is partnering with likely and unlikely businesses to step-into new dimension in order to deliver best end-to-end experience to the consumer.

GenNex also volunteers for Bundled Payments for Care Improvement Initiative to collaborate in order to improve both the quality and efficiency of individual episodes of care.

GenNex Diagnostics and Devices is a diagnostics firm with tie ups with various businesses. In this document, we consider the e-commerce division of GenNex which deals with the online purchase and returns of healthcare products. The product portfolio of GenNex marketplace includes medical assistance products like wheelchairs, hearing aids, insulin testers etc. Additionally, we also offer laboratory equipment refills like syringes, cotton swabs, first-aid kits etc. Shipping is provided via UPS deliveries and payment through payment gateways like PayPal and Payflow Pro.

GenNex provides At Home aid services where GenNex sells their devices and also provides home aid support to its customers. The use case modeling below explains the Home Aid Support information system of GenNex. The use-case narratives provide pre-conditions, triggers, course of events, alternate course of events, post conditions, business rules, implementation constraints and finally open issues. The intent of these narratives is to convey the functionality of systems from the perspective of an external user in a manner in which they understand.

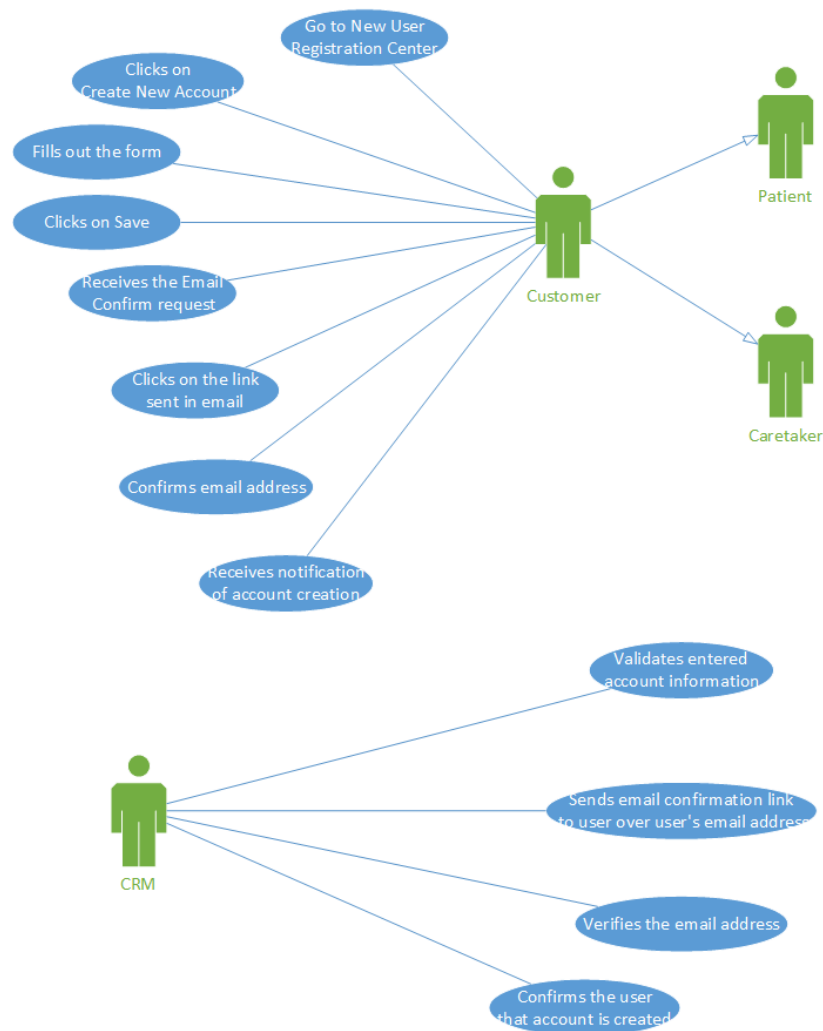
HIGH LEVEL USE CASE DIAGRAM



HOME AID SERVICES USER ACCOUNT CREATION

Use Case Diagram

The Create Account use case allows the User to create a login and become a Registered User for home aid services.



Actor Glossary

Actor	Description
Customer	An individual who will register with Home Aid Services
Customer Relationship Management (CRM)	The system interacting with customer is CRM which validates user's actions

Use Case Glossary

Use-case Name	Use-case Description	Participating Actors and Roles
Account Creation	The Create Account use case allows the User to create a login and become a Registered User for home aid services.	<ol style="list-style-type: none"> Customer Customer Relationship Management

Use Case Narrative

USE CASE NAME	Create Home Aid Service Account	USE CASE TYPE
		Business Requirement
Priority	High	
Primary Business Actor	Customer (Patients, Patient's caretaker) , CRM	
Other Participating Actors	Hospital Networks, Cab Partners, Pharmacists, Employee (Doctors, Nurses, Administrative staff, System Administrator, physiotherapist)	
Description	This use case will explain the flow of creating account for Home Aid services. In this use case, the Customer registers to the GenNex Home Aid Services website. System validates the login credentials / registering details. Internally the whole login takes place through CRM.	
Precondition	The user should not be an existing user.	
Trigger	<ul style="list-style-type: none"> The user gets registered when she/he hits the create account button. 	

	<ul style="list-style-type: none"> The user is registered when user verifies its email address 	
Typical Course event	Actor Action	System Action/Response
	Step 1: User accesses the new user registration section of Create Account	Step 2: The system presents the registration form
	Step 3: User provides following information for the account : <ul style="list-style-type: none"> a) Username b) First Name c) Last Name d) City e) State f) Username – a unique name by which the user can be identified g) Password – since the text of this field is masked, it is entered twice to ensure it is typed as intended h) Contact Information <ul style="list-style-type: none"> i. Work Phone Number ii. Cell Phone Number iii. Email Address 	Step 4: System validates the entered account information
		Step 5: System sends email confirmation back to the user in order to validate the email address
	Step 6: User receives a link in their email to validate the email address	Step 7: System access the confirmation link and validates it

		Step 8: The system notifies the user that account is created
	Step 9: User is directed to the landing page.	
Alternate Courses	<p>Alt Step 3: I) User Enters Invalid User Account Information</p> <p>The validation fails and the system prompts and asks the user to rectify the information as entered by user.</p> <p>If during Create Account, the system determines that the User entered invalid User Account information, the following occurs:</p> <ol style="list-style-type: none"> 1. The system describes which entered data was invalid and presents the User with suggestions for entering valid data 2. The system prompts the User to re-enter the invalid information 3. The User re-enters the information and the system re-validates it 4. If valid information is entered, the User Account Information is stored 5. If invalid information is entered, the Entered Information is Invalid alternative flow is executed again. This continues until the User enters valid information, or chooses Cancel <p>Invalid User Account information:</p> <ul style="list-style-type: none"> • Missing information items • Username already exists in the system 	

	<ul style="list-style-type: none"> • User Account information entered does not comply to its definition in the glossary • Not well formed e-mail address <p>Offending words in any part of the User Account information</p>	
	<p>Alt Step 3: II) User Cancels Request</p> <p>At any time, the User may choose to cancel the account creation. At which point, the processing is discontinued, the user account remains unchanged, and the user is notified that the account management request has been cancelled.</p>	
	<p>Alt Step 9: Modify User account</p> <p>If User needs to modify the properties of a user account (e.g. password, contact information, etc.)</p> <ol style="list-style-type: none"> 1. User selects the “Modify” command on their account 2. System present user detail with edit mode 3. User modifies the user account information described in Step 2 of the Typical course events 4. User selects the “Save Changes” command to update the user account 5. System validates the information provided and determines that validation is passed. It follows steps 5,6, 7 of Typical course events 	

	6. The use case ends	
Conclusion	The use case concludes when the user successfully creates an account and receives a confirmation from system.	
Post Condition	<ol style="list-style-type: none"> 1. Success: The User entered data is stored in the user account. Confirmation is sent to the appropriate email address. 2. The user account was not created: The User entered invalid data or chose to cancel the account creation request. In either case, no account will be created. 	
Business Rule	<ol style="list-style-type: none"> 1. Password must conform to the configured defined GenNex account password strength policy 2. Username must be unique and conform to the configured GenNex account username policy (such as minimum characters) 3. Email address provided by the user must be verified before user account is created 	

UI Prototype

The image shows a web browser window with a navigation bar containing 'Services', 'About Us', 'Login', and 'Contact Us'. The main content area is divided into two sections: 'Login Here' and 'Register Here'. The 'Login Here' section includes fields for 'UserName' and 'Password', a 'Remember Me?' checkbox, and a 'Login' button. The 'Register Here' section includes fields for 'First Name', 'Last Name', 'City', 'State', 'Username', 'Password', 'Contact No', 'Work Phone', and 'Email', along with a 'Register' button.

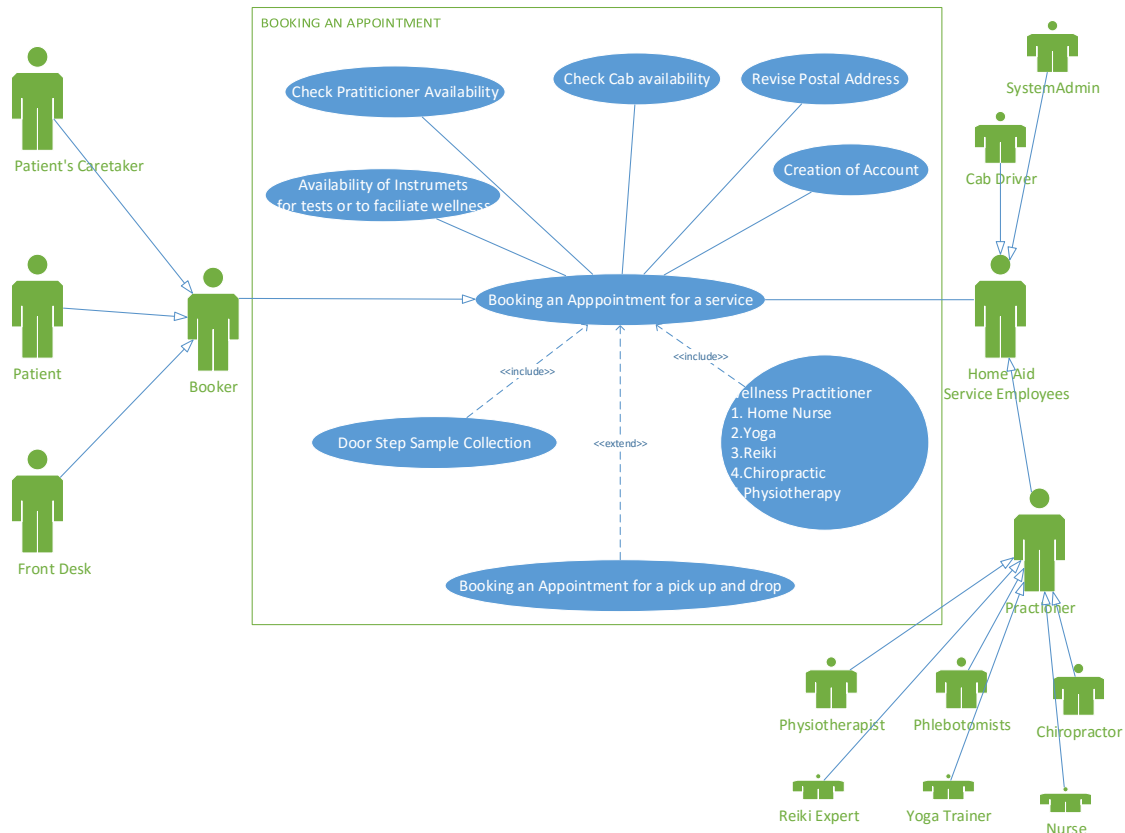
Login Page for the Customers

The image shows a web browser window with a navigation bar containing 'Services', 'About Us', 'Login', and 'Contact Us'. The main content area features a paragraph describing 'At Home services' as a part of 'GenNex Diagnostics and Devices'. Below the text, there are six service categories, each with an icon and a link: 'Wellness' (person icon), 'Case Management' (document icon), 'Transportation' (ambulance icon), 'Buy a Product' (dollar sign icon), 'Tracking and Scheduling' (calendar icon), and 'Construction' (cube icon).

Home Page for Customers after login

APPOINTMENT BOOKING AND TRACKING FOR HOME AID SERVICES

Use Case Diagram



The above diagram is a Use Case diagram, depicting the "Booking an Appointment" subsystem.

Patient, Patient's caretaker or the Front desk employee of GenNex, can book an appointment slot. Thus these actors can be generalised as one Actor, "Booker". The main Use case for this subsystem is "Booking an Appointment for a service". This implies that the user will be taking these steps to book a reservation.

The Use Cases "Requesting for Doorstep Sample Collection", "Requesting for a Wellness Practitioner", "Booking an appointment for pick up and drop", all these 3 UC's extend to the functionality of the main UC - "Booking an Appointment for a service". From the diagram we can also conclude that the UC - "Booking an Appointment for a service" is dependent on other UC's, some of which include Account creation, Practitioner availability, Cab availability, instruments availability, address check. Thus we primarily have 4 UC's namely

1. UC 1 - "Booking an Appointment for a service"
2. UC 2 - "Booking an Appointment for Doorstep Sample Collection"
3. UC 3 - "Booking an Appointment for a Wellness Practitioner"
4. UC 4 - "Booking an appointment for pick up and drop"

Actor Glossary

Actor	Description
Customer	Customer can be a user who is using booking, buying, renting products and services from the home aid services systems. These could be the patient itself, care taker of the patient.
Employee	Employee of GenNex may include but are not limited to Doctors/Physicians, Nurses, Administrative staff (like receptionist), system administrator etc.
Other Systems	Home aid services system will be integrated with multiple upstream and downstream systems like CRM, Billing & payments, content management system, payment gateway system etc.

Use Case Glossary

Use-case Name	Use-case Description	Participating Actors and Roles
Booking an Appointment	Customer can book any available service from the online portal.	<ol style="list-style-type: none"> 1. Patient 2. Front Desk 3. Caretaker Home Aid Service Employee's 4. Provider
Booking an Appointment for door step sample collection		
Booking an Appointment for pick up and drop		

Use Case Narrative

UC 1: BOOKING AN APPOINTMENT

1.	USE CASE NAME	Booking an Appointment	USE CASE TYPE
			Business Requirement
2.	Priority	High	
3	Primary Business Actor	Booker – Patient, Front Desk, Caretaker	
4	Secondary Business Actor	Home Aid Service Employee's , Provider	

5	Pre-Condition	1. Book An Appointment for a service 2. Patient has a registered account at GenNex	
6	Trigger	When the user clicks on “Book an Appointment”	
7	Dependencies	1.Practitioner Availability 2.Cab Availability 3.Account Creation 4.Address Verification 5.Instrument Availability	
8.	Typical Course Of Action: Happy Path	Actor Action	System Action/Response
		Step 1 : The user logs in to the “At Home Service” system using User Name & Password	Step 2 : System validates the login and the user is logged into the User Dashboard of ‘Home Aid Service’ system
		Step 3 : User clicks on the “Book an Appointment” tab button	Step 4: The system displays a drop down listing the services for which a user can book an appointment. Some of them include: <ul style="list-style-type: none"> 1. Door step sample collection 2. Nurse – Personal Assistant 3. Physiotherapist 4. Yoga Trainer 5. Reiki Expert 6. Chiropractor 7. Cab driver
		Step 5: User selects a ‘Service’ and clicks on ‘Next’	Step 6: System navigates too the next page that requires the user to select a ‘date’ and ‘time’ for the service requested.
		Step 7: User selects the ‘date’ or types in the date from the calendar	Step 8 : System displays the available time slots for that date to book an appointment
		Step 9 : User selects the appointment date and time slot and clicks on ‘Next’	Step 10 : System navigates to a page that prompts the user to either verify existing address or

			enter the address and phone number
		Step 9: User selects the registered address and registered phone number and clicks 'Next'	<p>Step 10 : System selects and confirms the address and time of the booking</p> <p>Step 10.1 System navigates to the "Booking Confirmation page" Which displays the address, phone number, service requested and date and time of the appointment.</p>
		Step 11: User clicks on add new address and enters the address and phone number and clicks 'Next'	<p>Step 12 : System adds the new address and phone number of the booking</p> <p>Step 12.1: System navigates to the "Booking Confirmation page" which displays the address, phone number, service and the time of the appointment.</p>
		Step 13: User confirms the booking	<p>Step 14: System displays a message "Your Appointment has been confirmed ".</p> <p>Step 14.1: System sends an appointment booking confirmation to the user's registered email address</p> <p>Step 14.2: System displays the booking details that include:</p> <ol style="list-style-type: none"> 1. Name of the patient 2. Address 3. Phone Number 4. Service requested 5. Requested Date and Time 6. Assigned Service Practitioners name 7. Pre- requisites if any

9.	Alternate Course Of Action:	Actions	
	Alternate Course Of Action: @ User calls the front desk to book an appointment	<p>Alt Step 1:</p> <ul style="list-style-type: none"> • User calls up the 'Home Aid Service' to book an appointment • The front desk receive the call and request for registered email • The front desk verifies for the registered email by entering the email address in the system <p>Alt step 2 :</p> <ul style="list-style-type: none"> • System validates the email address and navigates to the User Dashboard of 'At Home Service' system <p>Step 3</p>	
	Alternate Course Of Action: @ User Validation Fails	<p>Alt Step1 :</p> <ul style="list-style-type: none"> • System display's an appropriate error and prompts the user to login again • Step 1 • System allows the user to attempt to log in correctly with the registered email address. Only 3 attempts are given to the user. • After three failed login attempts 	

		<p>System displays the message” You have been locked out of your account for 24 hours.</p> <ul style="list-style-type: none"> You may call up ‘GenNex Home Health Services’ at 1800-978-675 to book an appointment’ <p>Alt Step 1 from User calls the front desk to book an appointment:</p> <ul style="list-style-type: none"> User calls up the ‘Home Aid Service’ to book an appointment The front desk receive the call and request for registered email The front desk verifies for the registered email by entering the email address in the system <p>User Calls help desk Alt step 2</p> <ul style="list-style-type: none"> System validates the email address and navigates to the User Dashboard of ‘Home Aid Service’ system <p>Step 3</p>	
	Alternate Course Of Action:	<p>Alt Step 8:</p> <ul style="list-style-type: none"> If no time slots are available, System displays a message 	

	@ No time slots available for the booking request	<p>“ No time slots available at this moment, we will call you back if any slots are available”</p> <ul style="list-style-type: none"> • If any slots are available the relationship manager calls up the customer and then facilitates a booking <p>Step 9</p>	
	Alternate Course Of Action: @ Address and Phone number verification fails	<p>Alt Step 11:</p> <ul style="list-style-type: none"> • User does not enter all the mandatory address fields then the system prompts an appropriate error message “ Please enter all the mandatory address fields” • User does not enter a valid phone number then the system prompts an error message “ please enter a valid phone number” • Once the user has entered correct address and phone number details proceed to • Step 13 	
	Alternate Course Of Action: @ System is not able to generate a confirmation	<p>Alt Step 14 :</p> <ul style="list-style-type: none"> • System is not able to generate a booking confirmation immediately after 	

		<p>the request is processed the system should display a message saying : “ The appointment will be mailed to you on the registered email address within 10 minutes”</p> <ul style="list-style-type: none"> • If the appointment is not mailed to the registered user in 8 minutes the Admin gets notified about the failed booking and he/she ensures booking request is successful and then mails the appointment to the registered user 	
10	Post Condition	The appointment is booked and all the actors are notified about the appointment	
11	Business Rules	<ol style="list-style-type: none"> 1. Can book only one appointment at a time 2. Can schedule only daily appointments 	
12	Implementation Constraints	<ol style="list-style-type: none"> 1. The online application is designed to work only for 100 users at the same time 2. If no slots available as requested ,you will be waitlisted and called to confirm appointment at for 	

		that slot if it is available later	
13	Open Issues	<ol style="list-style-type: none"> 1. How do we receive billing and claim details? 2. Who is responsible for syncing of new account creation 3. How do we receive reports after a patient is completely diagnosed? 	
14	Assumptions	<ol style="list-style-type: none"> 1. User knows to use the system 2. Customer address details are correct 3. Customer phone number is functional and correct 4. System is not designed for Specially Abled users. Specially abled users need assistance to “Book an Appointment” 	

UC 2: BOOKING AN APPOINTMENT FOR DOOR STEP SAMPLE COLLECTION

(UC 2 INCLUDES UC 1)

ADDITIONAL STEPS FOR THE UC 2

2.	USE CASE NAME	Booking an Appointment for Door step sample collection	USE CASE TYPE
	Typical Course Of Action: Happy Path	Actor Action	System Action/Response
	UC 2 includes UC 1: Step 1 – Step 4 Step 5 – Step 6.1	Step 5: User Selects the “Door Step Sample	Step 6: System navigates to the “Door Step sample collection” page and lists the tests that can

	Step 7 - Step 14	Collection” and clicks on ‘Next’.	be ordered for which doorstep sample collection is available Step 6.1 : System also display’s a disclaimer “ In case the test you want is not requested, please call the ‘GenNex Home Health Services’ for assistance at 1800-978-675 “
		Step 6.2: User selects the test he/she wants the sample collected for	Step 6.3: System displays the available dates and the time slots to book an appointment for doorstep sample collection

UC 3: BOOKING AN APPOINTMENT FOR A WELLNESS PRACTITIONER

(UC 3 INCLUDES UC 1)

ADDITIONAL STEPS FOR THE UC 3

3.	USE CASE NAME	Booking an Wellness Practitioner	USE CASE TYPE
	Typical Course Of Action: Happy Path	Actor Action	System Action/Response
	UC 3 includes UC 1: Step 1 – Step 4 (UC 1) Step 5 – Step 6 (UC 3) Step 7 - Step 14 (UC 1)	Step 5: User Selects the Wellness Practitioner he requires i.e. “Yoga Trainer” and clicks on ‘Next’.	Step 6: System displays the available dates and the time slots to book an appointment for doorstep sample collection

UC 4: BOOKING AN APPOINTMENT FOR A CAB

(UC 4 INCLUDES UC 1)

ADDITIONAL STEPS FOR THE UC 4

4.	USE CASE NAME	Booking an Appointment for pick up and drop	USE CASE TYPE
	Typical Course Of Action:	Actor Action	System Action/Response

	Happy Path		
	UC 4 extends UC 1: Step 1 – Step 4(UC ₁) Step 5- Step 6 (UC 4) Step 6 – Step 14(UC 1)	Step 5: User selects a 'Cab ' service and clicks on Next'	Step 5.1 : System displays a drop down for Additional facility needed: <ol style="list-style-type: none"> 1. wheelchair 2. stretcher 3. requesting an assistance
		Step 5.2: User selects an additional facility	Step 6 : System displays the available dates and the time slots to book an appointment for door step sample collection

UI Prototype

BOOKING AN APPOINTMENT FOR DOOR STEP SAMPLE COLLECTION

A Web Page

http://www.gennex.com/athomeservices.php double-click to edit

About Us Product & Services Contact Us Help

User Name : User 1

Password : *****

Login Register

A Web Page

http://www.gennex.com/athomeservices/userdashboard/appointments.php

Book on Appointment Reports Billing Statements

Book on Appointment

Door Step Sample Collection

Personal Assistant - Nurse
Doctor
Physiotherapist
Yoga Trainer
Reiki Expert
Chiropractor
Cab

Next

Descriptions of the Services

A drop down list is displayed and the user can select from the list. In this example the user selects “Door Step Sample Collection” and clicks on “Next”.

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Door Step Sample Collection

1. Test Requested

2. Date/Time

Routine Lab Test

Glucose Tolerance Test
Pediatric Draw Speciality
Drug Screening
Blueprint for Wellness
Blood Report
Diabeties

05 /29 /2016

☐ 9:00 AM
☐ 10:00 AM
☐ 5:00 PM

Next

In case the test you want is not requested, please call the 'GenNex At Home Services' for assistance at 1800-978-675

User selects the Test and selects a date and time for the appointment and clicks “Next”

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Address and Phone Number Details

1. Address Verification

☐ Address 1
Chaitra Masur
838- Westcott Street
Syracuse, New York
13210

☐ Primary Phone Number
315-807-1434

User selects the registered address and the phone number or can edit or add address and phone number. Once the user has made the selection user clicks on “Continue”.

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Booking Confirmation

1. Address

Chaitra Masur
838- Westcott Street
Syracuse, New York
13210

2. Phone Number

315-807-1434

3. Test Requested

Routine Lab Test

4. Date and Time

29 May 2016 , 9:00 AM

Please verify your details and Confirm your Booking Appointment

The system displays the details selected by the user and prompts the user to confirm the Booking

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Your Appointment has been confirmed!

PATIENT NAME : CHAITRA MASUR

PATIENT ADDRESS : Chaitra Masur
838- Westcott Street
Syracuse, New York
13210

PATIENT PHONE : 315-807-1434
NUMBER

SERVICE : Door Step Sample Collection
REQUESTED

TEST REQUESTED : Routine Lab Test

SAMPLE REQUEST : 29 May 2016, 9:00 AM
DATE AND TIME

ASSIGNED : Prateek Sargard
PRACTITIONER

Pre- requisites for the Test

For any queries Appointment related queries please call 1800-978-675

Log out

An Appointment Confirmation is displayed on the screen. This is also mailed to the user's registered email address. The user can log out.

The user has to login with his/her valid credentials.

A Web Page

http://www.gennex.com/athomeservices/userdashboard/appointments.php

Book an Appointment Reports Billing Statements

Book an Appointment

Yoga Trainer

Door Step Sample Collection
Personal Assistant - Nurse
Doctor
Physiotherapist
Reiki Expert
Chiropractor
Cab

Next

Descriptions of the Services

The user selects the Wellness Practitioner he requires. In this case the user selects "Yoga trainer" and clicks on "Next"

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

You have requested for a Yoga Trainer!

Date/Time

05 /29 /2016

☐ 9:00 AM
☐ 10:00 AM
☐ 5:00 PM

Next

In case of any further information, please call the 'GenNex At Home Services' for assistance at 1800-978-675

User select a date and time for the appointment and clicks on “Next”.

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Address and Phone Number Details

1. Address Verification

☐ Address 1
Chaitra Masur
838- Westcott Street
Syracuse, NewYork
13210

Edit Address Add a New Address

2. Phone Verification

☐ Primary Phone Number
315-807-1434

Edit Number Add New Number

Continue

User selects the registered address and the phone number or can edit or add address and phone number. Once the user has made the selection user clicks on “Continue”.

A Web Page

http://www.gennex.com/athomeservices/userdashboard/appointments.php

Book on Appointment Reports Billing Statements

Book an Appointment

Cab

- Door Step Sample Collection
- Personal Assistant - Nurse
- Doctor
- Physiotherapist
- Reiki Expert
- Chiropractor
- Cab

Next

Descriptions of the Services

GenNex At Home Services provides a wide range of services to meet the needs of our customers. Our services are designed to be convenient, efficient, and cost-effective. We offer a variety of services including door step sample collection, personal assistant services, medical services, and more. Our services are available in the following areas:

- Door Step Sample Collection
- Personal Assistant - Nurse
- Doctor
- Physiotherapist
- Reiki Expert
- Chiropractor
- Cab

User selects the service “Cab” and clicks on “Next”.

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

You have requested for a Cab!

Additional Facility

Wheelchair

- Translator
- Stretcher
- Human

Date/Time

05 /29 /2016

9:00 AM
10:00 AM
5:00 PM

Next

In case of any further information, please call the 'GenNex At Home Services' for assistance at 1800-978-675

The user selects “Additional Facility” and selects a date and time for pick up.

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

Booking Confirmation

1. Address Chaitra Masur 838- Westcott Street Syracuse, New York 13210	2. Phone Number 315-807-1434
3. Test Requested Routine Lab Test	4. Date and Time 29 May 2016 , 9:00 AM

Please verify your details and Confirm your Booking Appointment

Confirm Booking

The system displays the details selected by the user and prompts the user to confirm the Booking

A Web Page

http://www.gennex.com/athomeservices/bookanappointment.php

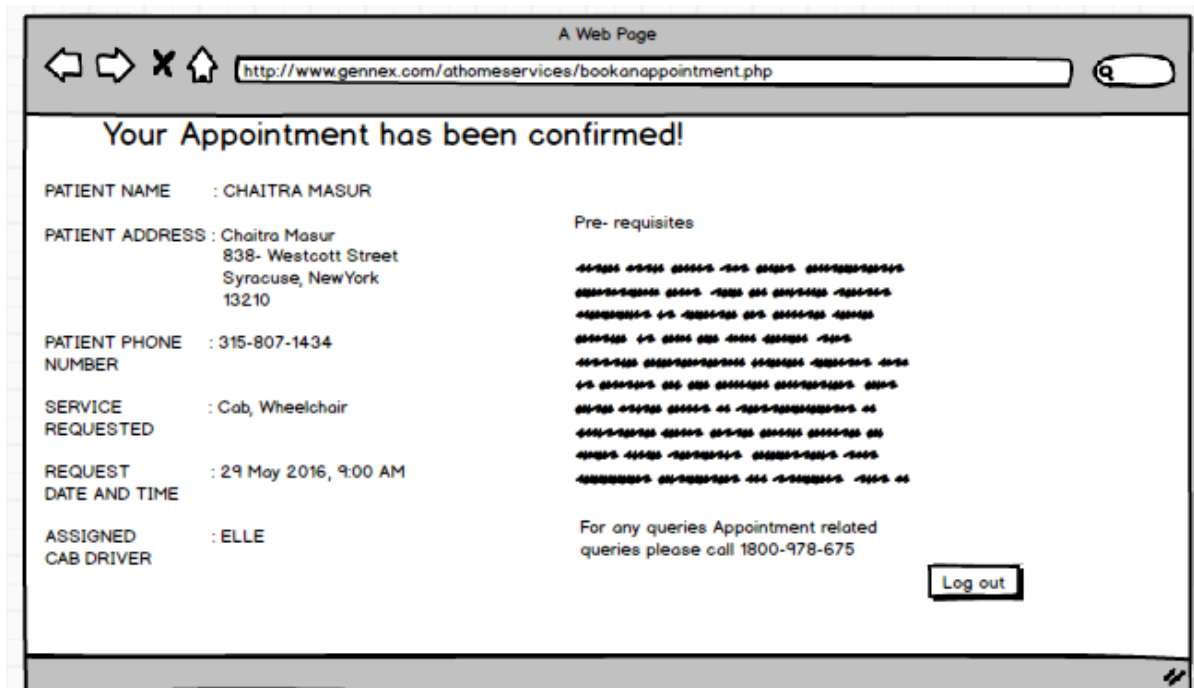
Booking Confirmation

1. Address Chaitra Masur 838- Westcott Street Syracuse, New York 13210	2. Phone Number 315-807-1434
3. Service Requested 1. Cab 2. Wheelchair	4. Date and Time 29 May 2016 , 9:00 AM

Please verify your details and Confirm your Booking Appointment

Confirm Booking

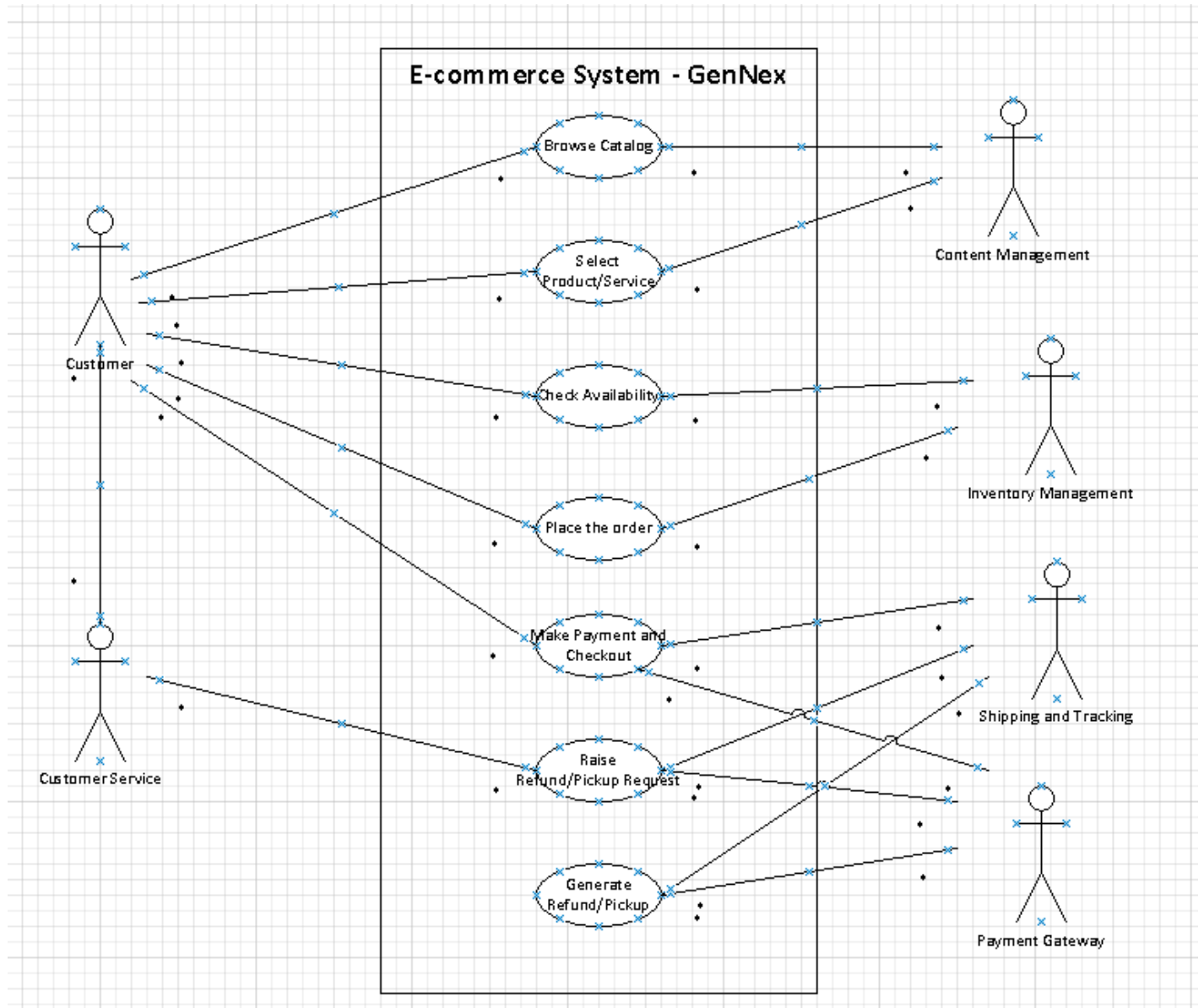
The system displays the details selected by the user and prompts the user to confirm the Booking



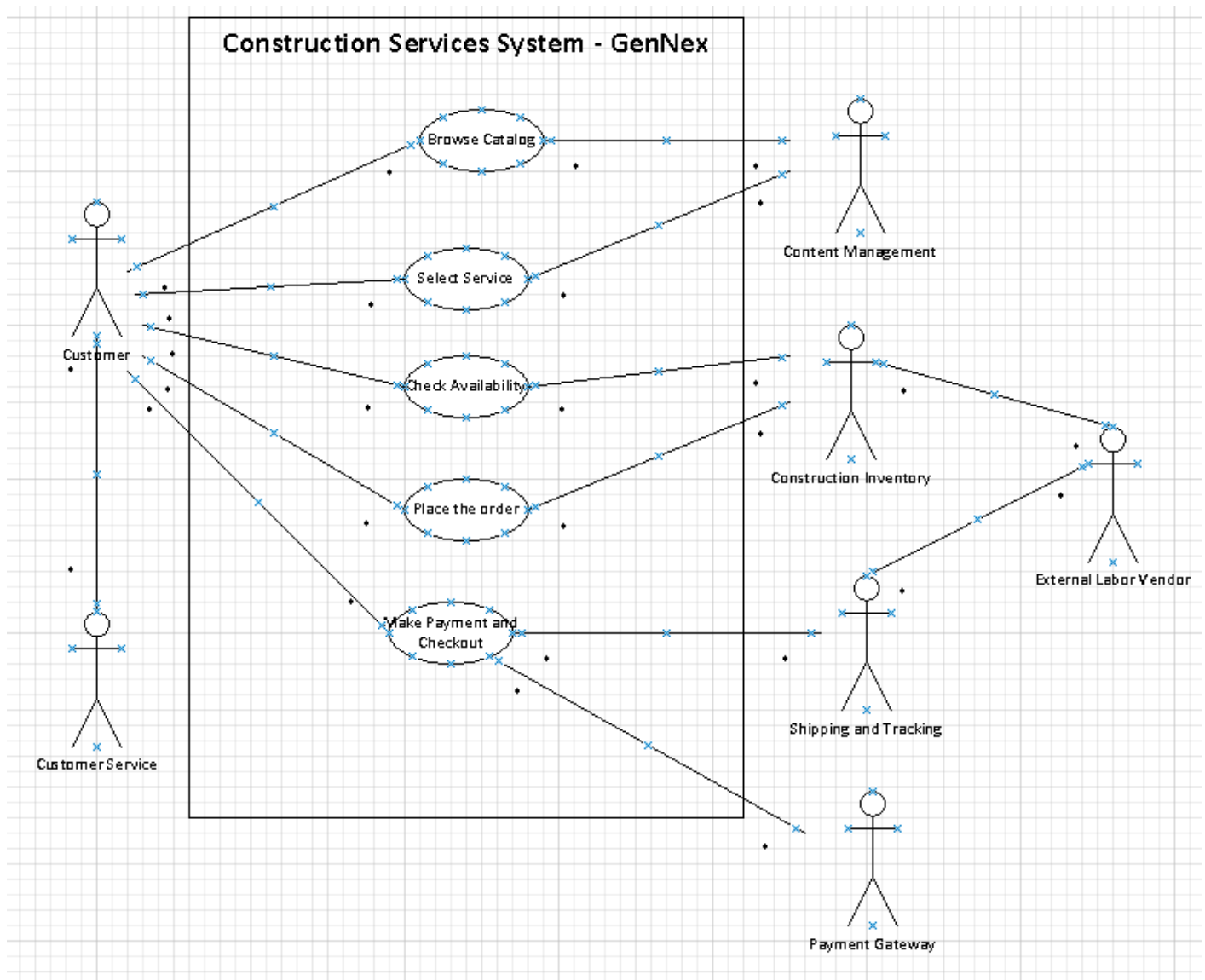
An Appointment Confirmation is displayed on the screen. This is also mailed to the user's registered email address. The user can log out.

E-COMMERCE FOR HOME AID DEVICES

Use Case Diagram



E-Commerce System



Construction Services System

Actor Glossary

Actor	Description
Customer	An individual who wants to buy healthcare products on the online marketplace.
Inventory Management System	A system which keeps track of the product inventory.

Content Management System	A system which maintains the interface between products for sale and the user.
Payment Gateway	A system used to make payments and generate refunds.
Shipment and Tracking	A system which handles product deliveries and tracking.
Customer Service	Services provided to customers for product feedback, returns and refunds.
External Labor Vendor	This is the system used by external vendors who provide labor for construction services in collaboration with GenNex.

Use Case Glossary

Use-case Name	Use-case Description	Participating Actors and Roles
E-commerce System	This use-case involves steps from customer browsing the product catalog to the product delivery. It also consists of steps to undertake in case of a return or refund.	<ol style="list-style-type: none"> 3. Customer 4. Inventory Management System 5. Shipment and tracking 6. Content management system 7. Payment gateway
Construction Services System	This use-case is for the scenario when the customer generates a return or a refund request.	<ol style="list-style-type: none"> 1. Customer 2. Inventory Management System 3. Shipment and Tracking 4. Customer Service 5. Payment gateway 6. External Labor Vendor

Use Case Narrative

E-commerce System

Use-case Name	E-commerce system	Use-case Type Business Requirements
Use-case ID	1	
Priority	Medium	
Source	Need for diagnostic products	
Primary Business Actor	Customer	
Other Participating Actors	1. Content Management System 2. Inventory Management System 3. Payment Gateway 4. Shipping and Tracking System 5. Customer Service	
Other Interested Stakeholders	1. Marketing – Interested in sales for promotion purposes 2. Procurement – Interested in sales activity to replenish inventory 3. Management – Interested in purchase activity to assess sales performance	
Description	This use-case describes the e-commerce of diagnostic and health devices. It is triggered when a customer is in need of a diagnostic device. Customer will browse the store catalog in the online store of GenNex and select a device. He will then place an order and make payment through a payment gateway. On completion, the customer receives the product by home delivery. In case of refunds, customer service is involved and refund is generated.	
Pre-condition	Customer has a health condition.	

Trigger	Customer needs a health device.	
Course of events	<p>Actor Action</p> <p>Step 1: Customer browses the catalog for product/service required from the content management system.</p> <p>Step 3: Customer selects the product.</p> <p>Step 6: Customer makes a payment through the payment gateway.</p>	<p>System Response</p> <p>Step 2: Construction Inventory Management System checks the availability of the product/service.</p> <p>Step 7: Order details are updated in the shipping and tracking system.</p> <p>Step 7: Product is delivered to the customer via shipping and tracking system</p>
Alternate course of events	<ol style="list-style-type: none"> Alt-Step 3: The product selected by the customer is unavailable. Create an out-of-stock notification and suggest alternatives. Alt-Step 6: The customer enters wrong payment details. Generate an error and prompt the customer to enter new details. 	
Conclusion	The use-case concludes when the customer receives the correct product.	
Post-condition	Product delivered successfully.	
Business Rules	<ol style="list-style-type: none"> Customers must have an account created. 	

	<ol style="list-style-type: none"> One customer must have one account. Payments must be made through the payment gateway.
Implementation constraints and specifications	<ol style="list-style-type: none"> GUI must be provided for customers to use content management system. Payment gateway must have highest amount of security and encryption.
Assumptions	<ol style="list-style-type: none"> Customers are in need of medical devices. Customer does not cancel orders before shipping.
Open Issues	Payment options need to be figured out i.e. whether to allow cash, debit or credit payments.

Construction Services

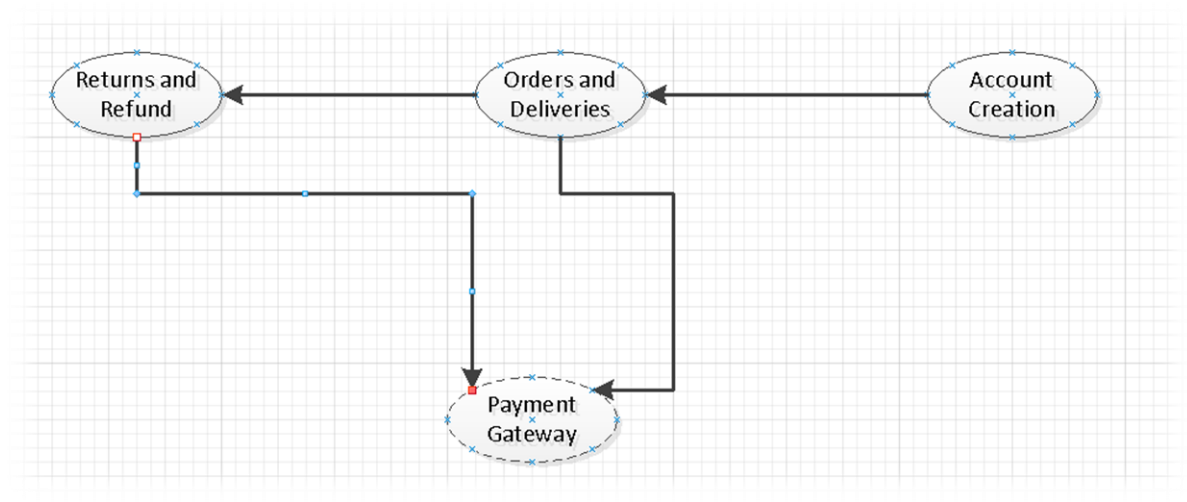
Use-case Name	Construction Services	Use-case Type Business Requirements
Use-case ID	2	
Priority	Medium	
Source	Delivered product is faulty/incorrect	
Primary Business Actor	Customer	
Other Participating Actors	1. Inventory Management System 2. Payment Gateway 3. Shipping and Tracking System 4. Customer Service 5. External Labor Vendors	
Other Interested Stakeholders	1. Procurement – Interested in sales activity to update inventory	

	2. Customer Relationship Management – Interested to provide effective returns and refund 3. External Labor Vendors – Interested to provide manual labor for construction services	
Description	This use-case describes the online order of a construction item like a ramp for the disabled, its delivery and its construction process. The construction services system of GenNex interfaces with the IT system of external labor vendor who provides man-power for construction services.	
Pre-condition	Customer places an order for a construction service.	
Trigger	Customer places an order for a construction service.	
Course of events	Actor Action Step 1: Customer browses the catalog for product required from the content management system. Step 2: Customer selects the product. Step 4: Customer places the order. Step 6: Customer makes a payment through the payment gateway.	System Response Step 3: Inventory Management System checks the availability of the product. Step 5: Order details are updated in the shipping and tracking system. Step 7: Inventory management and shipping systems interface with external labor vendor systems to provide order details. Step 8: Construction product along with manual labor are delivered to the customer.

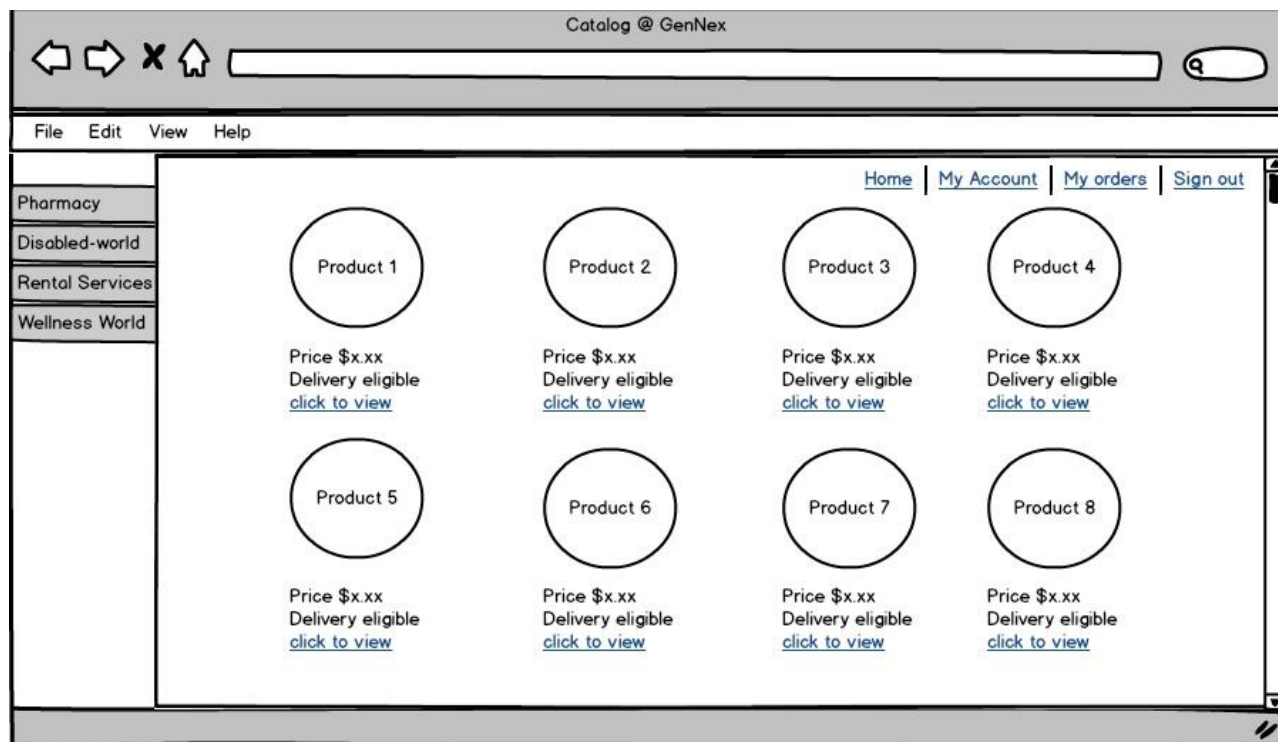
Alternate course of events	<ol style="list-style-type: none"> 1. Alt-Step 3: The product/service selected by the customer is unavailable. Create an unavailable notification and suggest alternatives. 2. Alt-Step 6: The customer enters wrong payment details. Generate an error and prompt the customer to enter new details.
Conclusion	The use-case concludes when the customer receives the construction service.
Post-condition	Construction completed successfully.
Business Rules	<ol style="list-style-type: none"> 1. Customers must have an account created. 2. One customer must have one account. 3. Payments must be made through the payment gateway.
Implementation constraints and specifications	<ol style="list-style-type: none"> 1. GUI must be provided for customers to use content management system. 2. Payment gateway must have highest amount of security and encryption. 3. Compatibility of External Labor Vendor system with GenNex system.
Assumptions	Customer receives a faulty/incorrect product.
Open Issues	Payment options need to be figured out i.e. whether to allow credit refunds or gift coupons.

Dependency Diagram and Risks

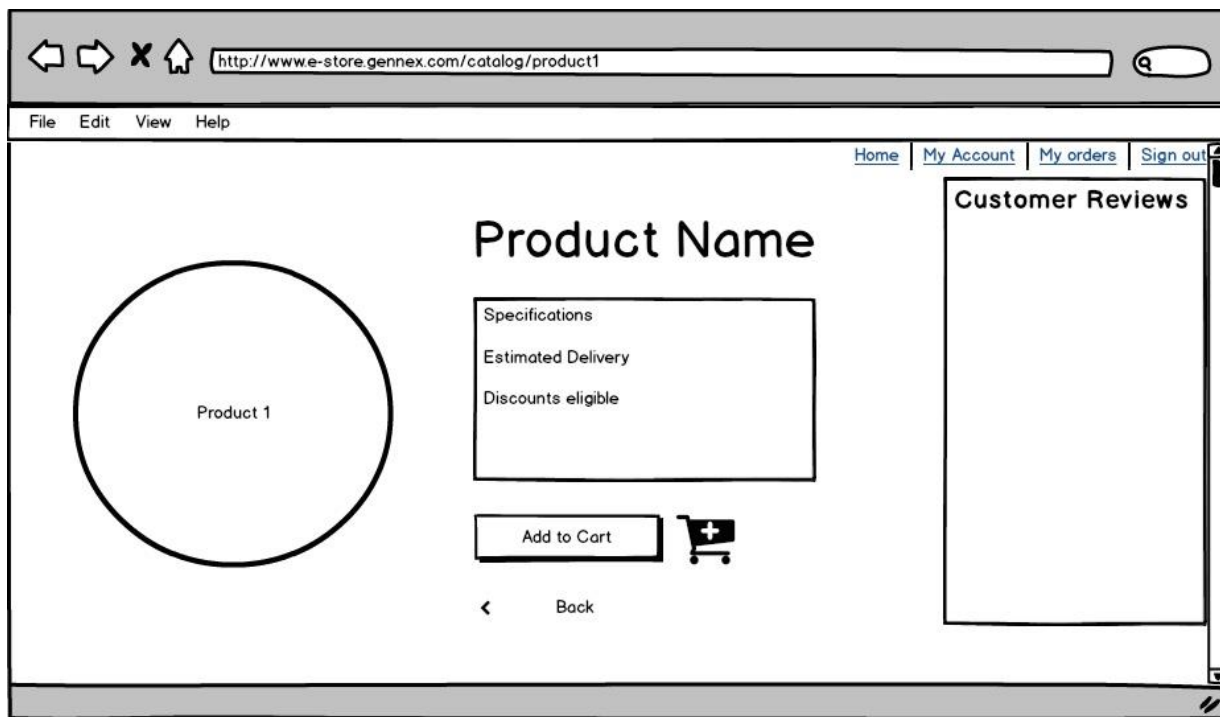
As per the dependency diagram, Use-Case 1 i.e. Orders and Deliveries depends on the Use-Case of Account Creation. A customer may not order a product from the online marketplace unless he has an account created on the GenNex website. Use-Case 2 i.e. Returns and Refund depends on Use-Case 1 which is Orders and Deliveries. A request for return or refund cannot be placed unless the product received is faulty or incorrect. The payment gateway use case is triggered once an order is placed or a refund is generated.



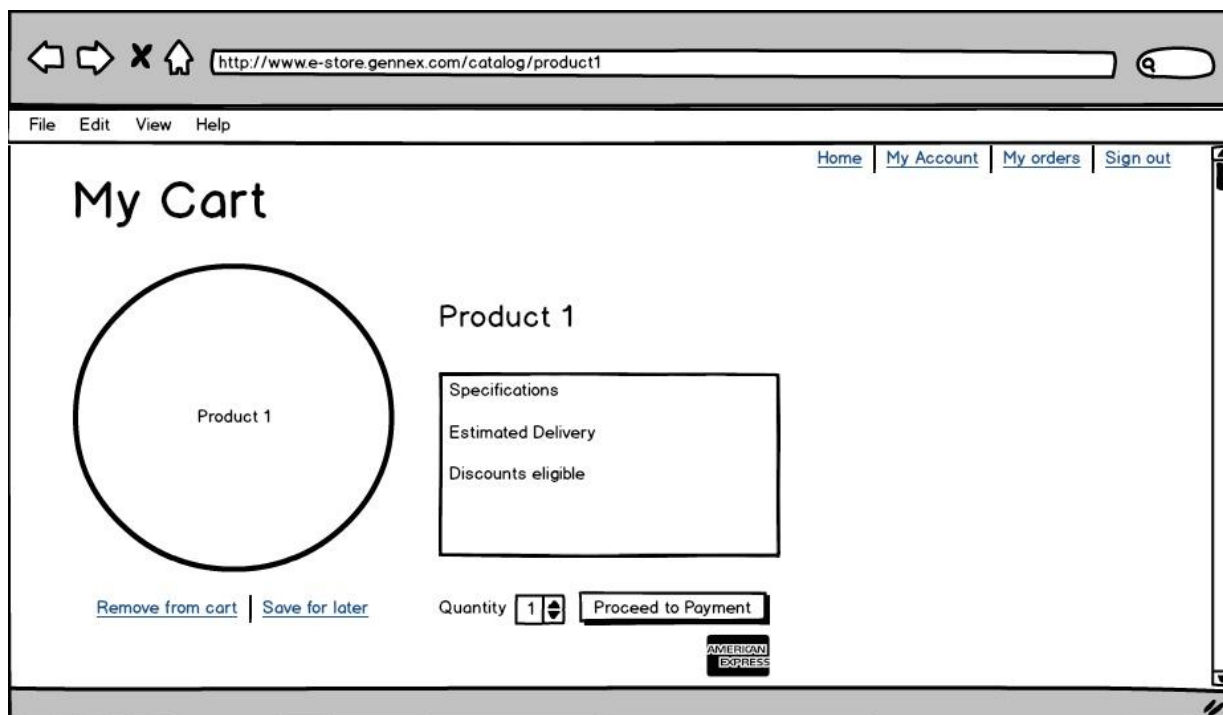
UI Prototype



Customer browses the catalog of products online



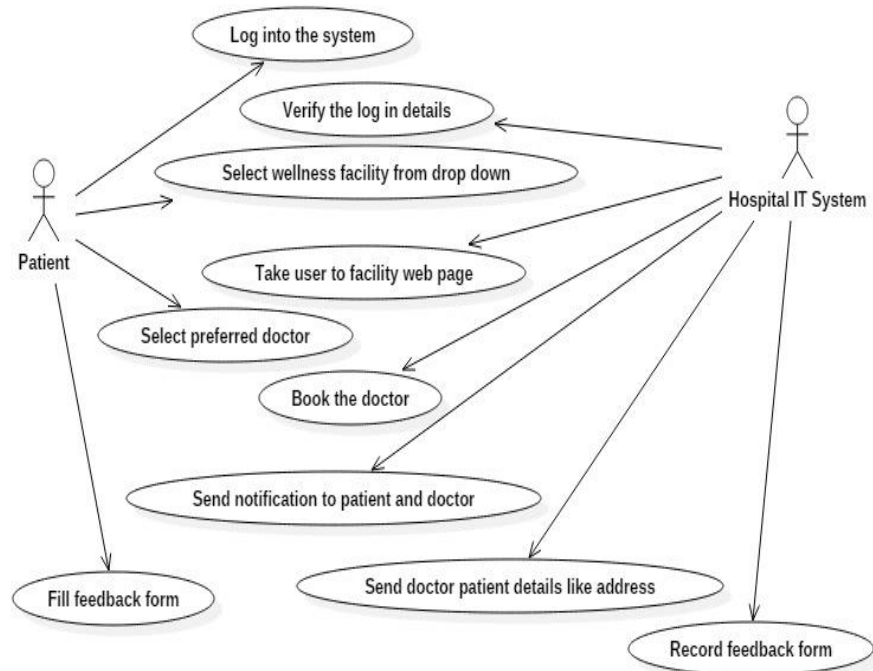
Customer adds the product to his cart



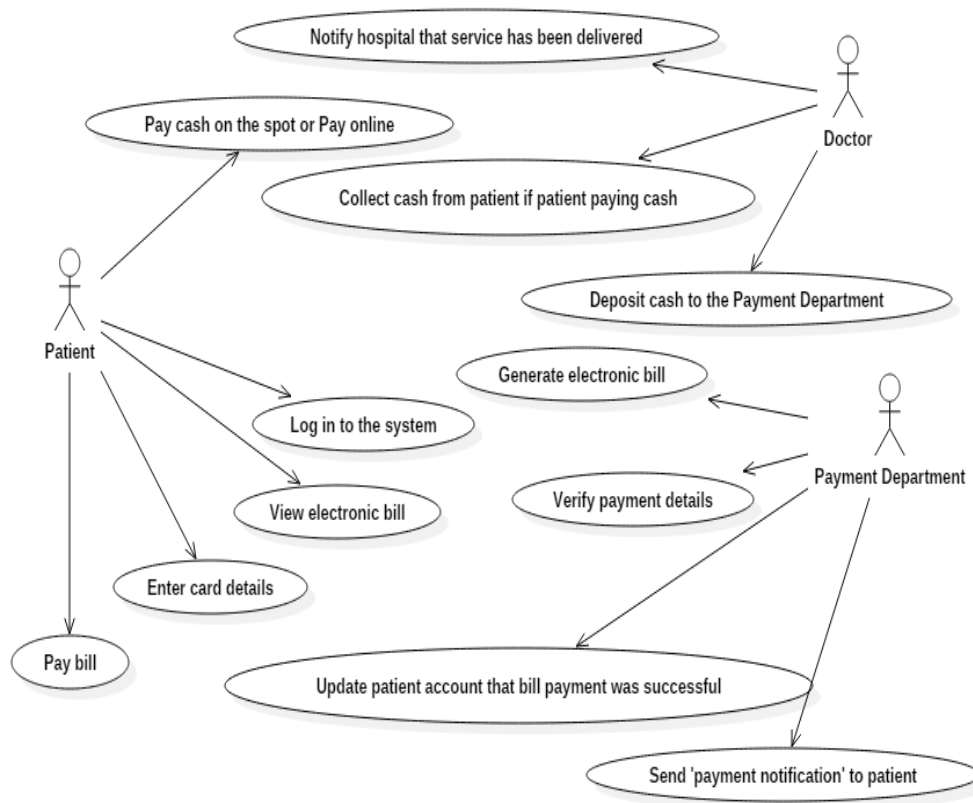
The payment gateway screen appears

WELLNESS SERVICES AND PAYMENTS

Use Case Diagram



Wellness



Payment

Actor Glossary

Actor	Description
Patient	The patient is a customer who comes to GenNex for various services.
Hospital IT System	The Hospital IT System validates the user login and helps the user navigate through the website. It also helps the patient in activities like booking an appointment with the doctor and making payments.
Doctor	The Doctor goes to the patient's house for treating the patient.
Payment Department	The payment department handles the processing and payment of bills

Use Case Glossary

Use-case Name	Use-case Description	Participating Actors and Roles
Wellness service through home aid services.	This use case describes a service provided by GenNex as part of the Home Health Aid. In this use case, the patient logs in to the GenNex website and under the Home Health Aid tab requests for services like physiotherapy, chiropractic, yoga sessions at home, reiki sessions, acupuncture etc. GenNex responds by sending the specialist over to the patient's house for the required duration as specified by the patient.	<ol style="list-style-type: none"> 1. Patient/Guardian/Disabled Patient 2. Doctor, Admin, Yoga teacher, Reiki specialist, Physiotherapist, Chiropractic

Use Case Narrative

Wellness

USE CASE NAME	Wellness	USE CASE TYPE
		Business Requirement
Priority	High	
Primary Business Actor	Patient/Guardian/Disabled Patient	
Other Participating Actors	Doctor, Admin, Yoga teacher, Reiki specialist, Physiotherapist, Chiropractic	
Description	This use case describes a service provided by GenNex as part of the Home Health Aid. In this use case, the patient logs in to the GenNex website and under the Home Health Aid tab requests for services like physiotherapy, chiropractic, yoga sessions at home, reiki sessions, acupuncture etc. GenNex responds by sending	

	the specialist over to the patient's house for the required duration as specified by the patient.	
Precondition	The user patient/patients need to have a user account created on the GenNex website.	
Trigger	When the patient books an appointment on the GenNex website through their account.	
Typical Course event	Actor Action	System Action/Response
	Step 1: The patient/guardian/disabled patient logs into the system using their credentials	Step 2: The user credentials are successfully verified and the user is logged into the system
	Step 3: The patient selects the facility they want to avail from the drop down list.	Step 4: The system takes the user to the webpage for the facility they requested.
	Step 5: The user selects the doctor they prefer	Step 6: The system books the doctor for the facility the patient requested.
		Step 7: The patient and the doctor are sent notifications about the appointment confirmation
		Step 8: The doctor is sent patient details like their home address, the day/date of the appointment ,the duration of the appointment etc.
	Step 9: The patient fills a feedback form.	Step 10: The feedback is recorded into the system
Alternate Courses	Alt Step 2: The validation fails and the system asks the user to log in again and after three attempts the account is locked.	

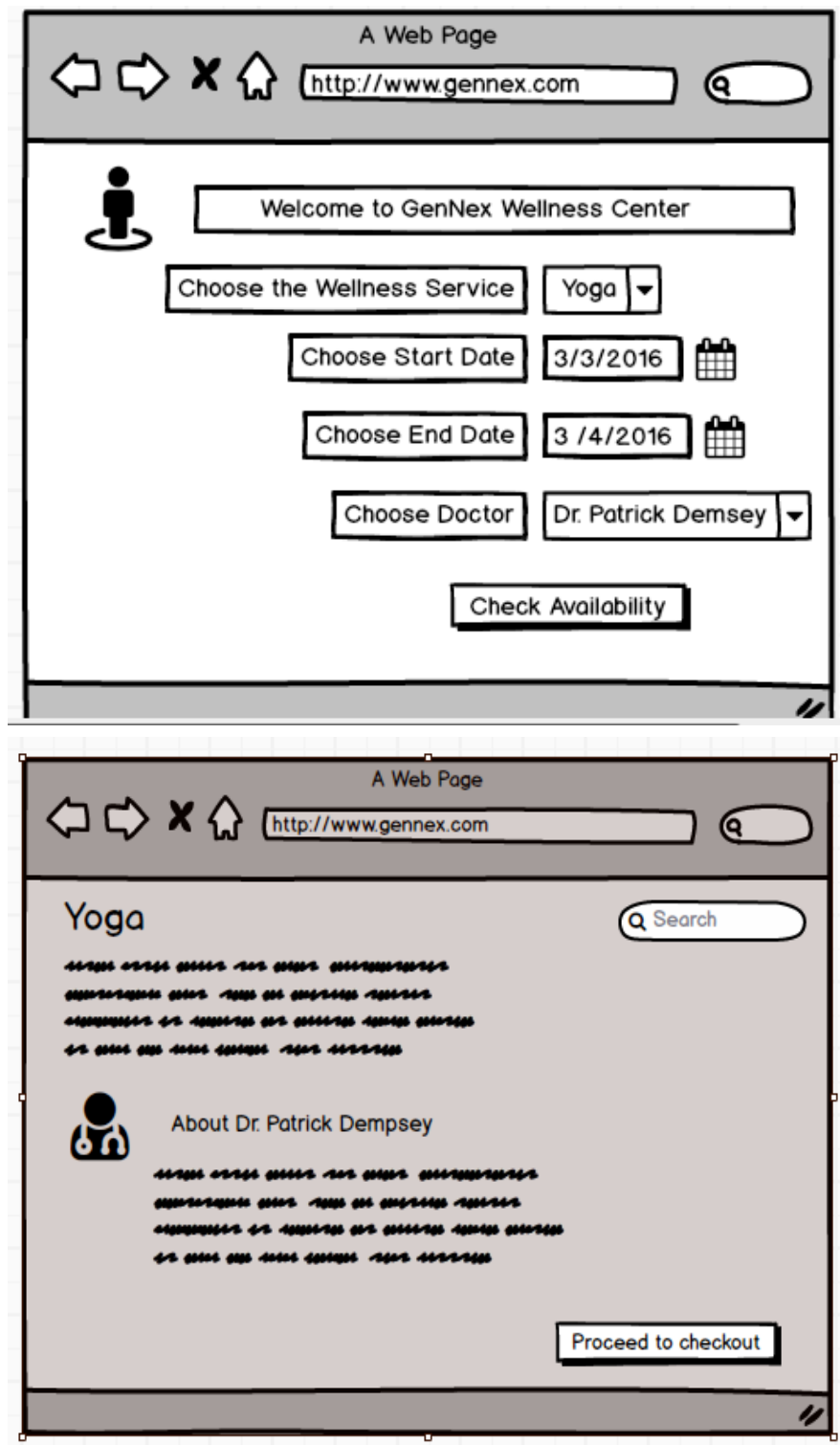
	Alt Step 5: If the doctor preferred by the patient is not available or not on duty, the patient selects a different doctor.	
	Alt Step 7: If the patient does not receive an appointment confirmation within an hour, the admin is notified.	
Conclusion	The use case concludes when the user successfully books and appointment and receives an appointment notification.	
Post Condition	The system sends reminder messages to the doctor and the patient. The patient is sent an electronic bill as well once the appointment is over. The patient has the option to pay on the spot or online. Once the payment is done the patient	
Business Rule	1) The patient has to have a valid user account on the GenNex website.	
	2) The system will generate immediate appointment confirmation message to the patient. 3) The system will also immediately inform the doctor of the appointment and send all required patient information to the doctor.	
Implementation constraints and specifications	Webpage for each facility must be provided to the user for better understanding of Wellness services provided by GenNex.	
Assumption	The customer will provide feedback after the delivery of service.	
Open Issues	Payment methods need to be discussed with the payment Department	

Payment

USE CASE NAME	Payment for the wellness services	USE CASE TYPE
		Business Requirement
Priority	High	
Primary Business Actor	Patient/Guardian/Disabled Patient	
Other Participating Actors	Doctor, Admin, Yoga teacher, Reiki specialist, Physiotherapist, Chiropractic	
Description	This use case describes a service provided by GenNex as part of the Home Health Aid. In this use case, the patient pays for the service they have used either through online portal or immediately in person at home to the doctor providing the services.	
Precondition	The user patient/patients need to have a user account created on the GenNex website for online payment and card details must be entered at all times in case the patient fails to pay in person.	
Trigger	When the doctor notifies the system that the service has been successfully delivered to the patient.	
Typical Course event	Actor Action	System Action/Response
	Step 1: The doctor notifies that the required service has been delivered to the patient.	Step 2: A physical bill is generated by the doctor on the spot and also an online bill is generated for online payment and further references.
	Step 3: The patient decides whether they want to pay on the spot or through online.	Step 4: The doctor collects cash if the patient decides to pay on the spot.
		Step 5: The doctor notifies the system if the user decides to pay online.
	Step 6: The user makes an online payment.	Step 7: The system verifies the payment details and records a payment.

		Step 8: A 'payment successful' message is sent back to notify the patient.
Alternate Courses	Alt Step 2: If the doctor forgets to generate a bill in the case that the patient decides to pay online, an electronic bill is generated for the convenience of the patient and the administration.	
	Alt Step 5: If the online payment fails, someone from the Payment department calls and notifies the patient.	
	Alt Step 8: If the patient does not receive a payment confirmation within 48 hours of making the payment, the admin is notified.	
Conclusion	The use case concludes when the patient receives a 'payment successful' message from the system after making the payment.	
Post Condition	The system sends timely payment reminders to the patient if the patient forgets to pay online. The system also sends the doctor (who collected the payment on the spot) reminder messages to deposit the patient cash received in the Payment Department.	
Business Rule	1) The patient has to have a valid credit card for online payment.	
	2) The system will electronic bills irrespective of the mode of payment. 3) The system will also immediately inform the patient as soon as the payment has been successfully verified and recorded in the system.	
Implementation constraints and specifications	Coordination with the Payment Department needs to be on point and done in a timely manner	
Assumptions	Customer has a credit card if they want to pay online.	
Open Issues	Communication with the Payment department regarding the refund of faulty/unsatisfied services.	

UI Prototyping



Wellness

The image shows a hand-drawn prototype of a web browser window titled "A Web Page". The browser's address bar contains the URL "http://www.gennex.com". The main content area of the page features a large dollar sign (\$) on the left and a "Payment" form on the right. The form includes a "Select Payment Option" dropdown menu with "Online payment" selected. Below this are input fields for "Enter Card No." (containing "4123329485930"), "Enter Card Name" (containing "Patient 1"), "Expiry Date" (containing "10/30" and a calendar icon), and "Doctor Name" (containing "Dr.Patrick Dempsey"). A "Submit" button is located at the bottom of the form.

A Web Page

http://www.gennex.com

\$

Payment

Select Payment Option

Online payment

Enter Card No.

4123329485930

Enter Card Name

Patient 1

Expiry Date

10/30

Doctor Name

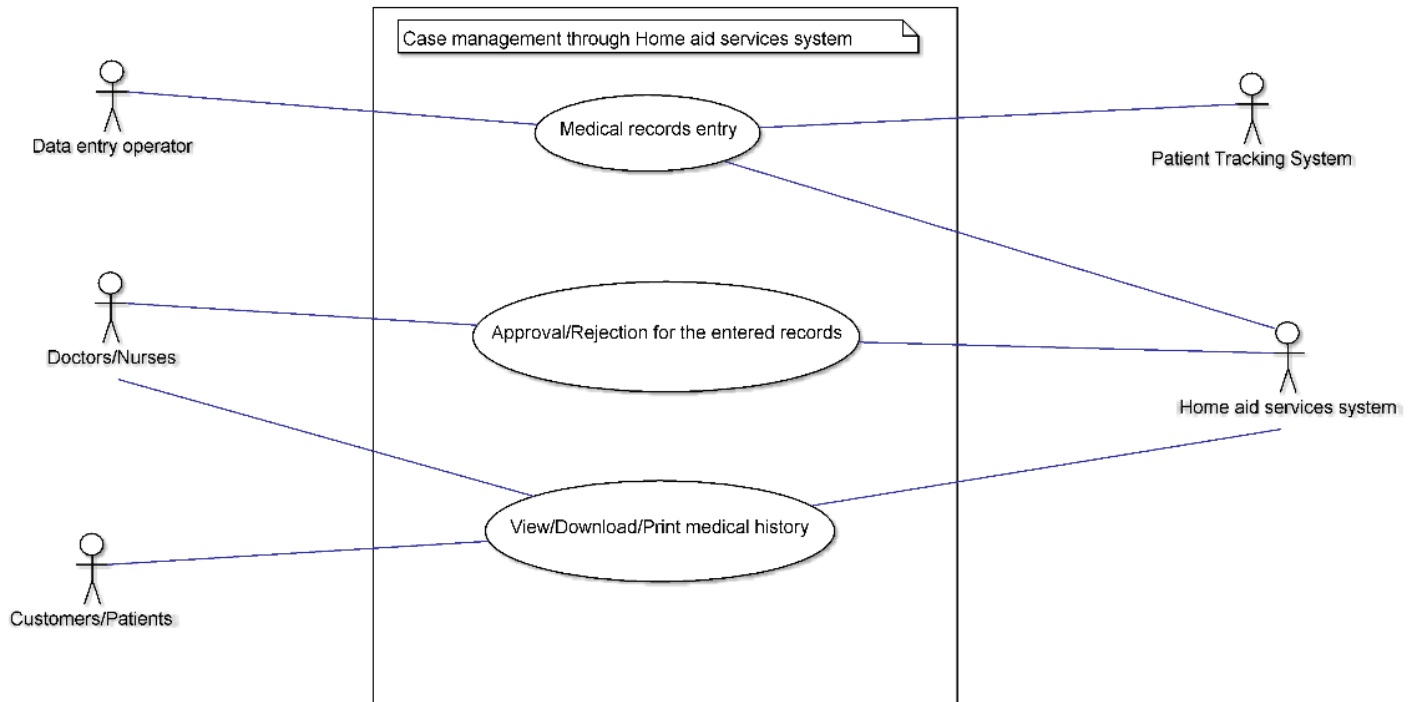
Dr.Patrick Dempsey

Submit

Payment

CASE MANAGEMENT THROUGH HOME AID SERVICES

Use Case Diagram



Actor Glossary

Actor	Description
Customer	Customer can be a user who is using booking, buying, renting products and services from the home aid services systems. These could be the patient itself, care taker of the patient.
Employee	Employee of GenNex may include but are not limited to Doctors/Physicians, Nurses, Administrative staff (like receptionist), system administrator etc.
Other Systems	Home aid services system will be integrated with multiple upstream and downstream systems like CRM, Billing & payments, content management system, payment gateway system etc.

Use Case Glossary

Use-case Name	Use-case Description	Participating Actors and Roles
Case management service through home aid services.	GenNex will provide case management service to its customers. In which,	1. Customers (Patients, Patient caretaker)

	<p>GenNex will get material or electronic form of reports, results, data about patients medical records. That will be electronically stored at a central location i.e. into the home aid service system. Also, in traditional diagnostic companies one has to, first, go for test and then either wait for long hours there or have to come back some other time to collect the results, reports etc. So, one part of home aid service would be maintaining customers'/patients' medical records online, so that they can track their medical history from their home</p>	<ol style="list-style-type: none"> 2. Doctors/Nurses 3. System administrator, Data entry operator. 4. Administrative staff like receptionist etc.
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Use Case Narrative and UI Prototype

Entering customers'/patients' data into the system.

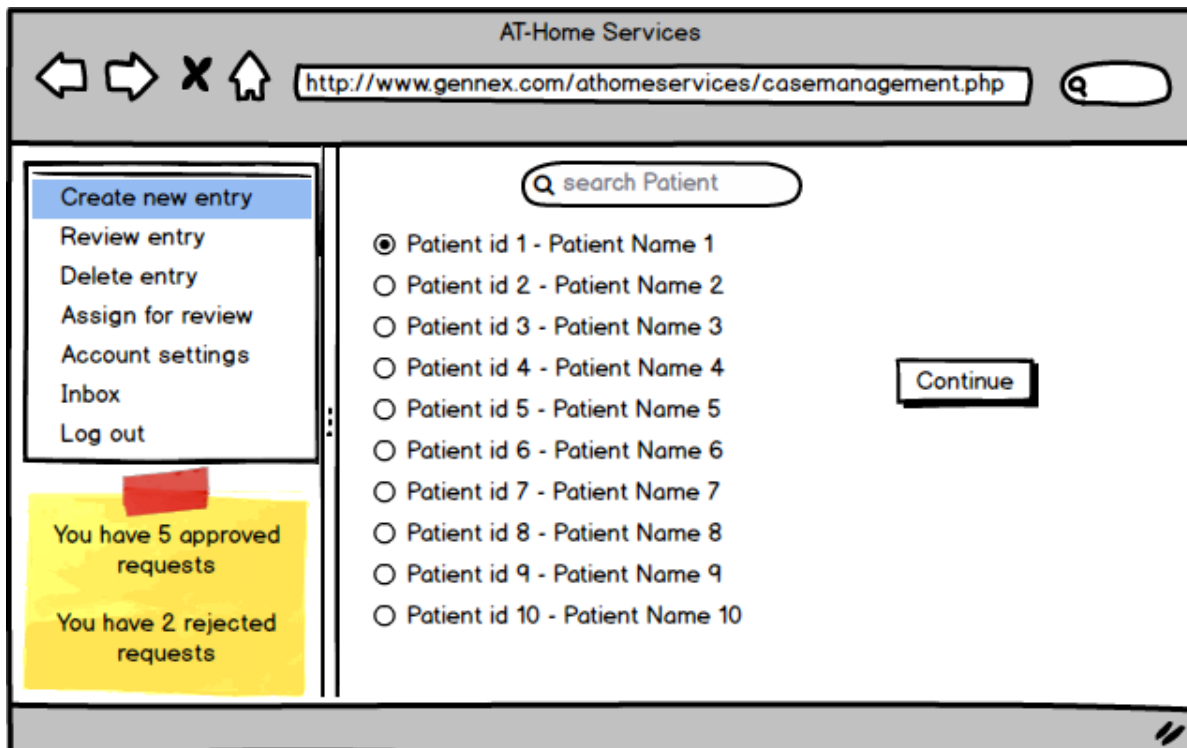
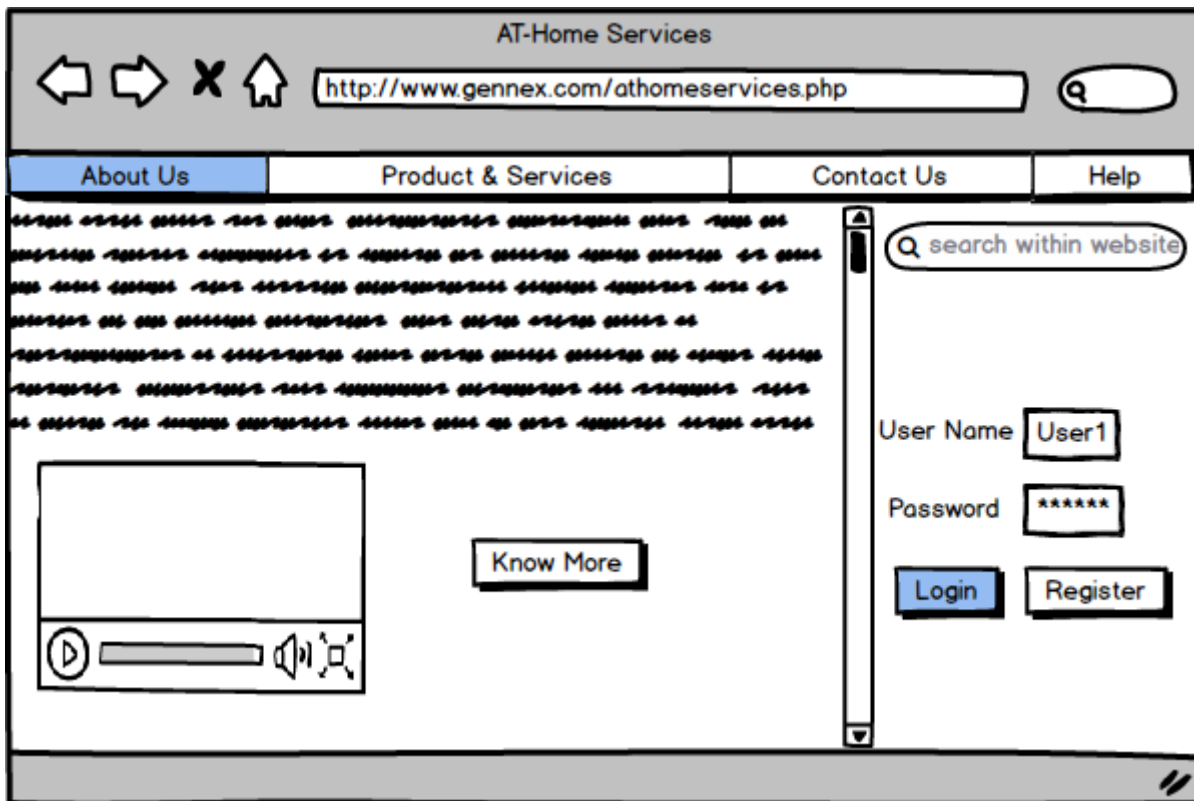
Brief Description:	The purpose of this Use case is to feed in the data related to patients provided by nurses, doctors/physicians etc. The data pertains to prescription that the patient received or blood pressure reading nurses take at patients' home or test results etc.
Business Trigger:	Publishing of Doctor's prescription, Test results etc. online for customers/patients.
Technical Trigger:	Login by a data entry operator into the portal

Primary Actors:	Data entry operator
Secondary Actors:	Authorized doctors to sign off new entry to publish online.
Preconditions:	<ol style="list-style-type: none"> 1. Home aid services system should be up and running. 2. Data should be available in material or electronic form.
Dependencies:	Dependency of this use case is on the activity of giving access rights by the system administrator to the data entry operator. If access giving use case is not successful then this use case will never succeed.

Basic Flow: Data entry after successful login.	
Assumptions: Data entry operator has all required access to the system.	
System Actor Action	System Response
1. Data entry operator will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Data entry operator will login into the system.	4. System will validate the credentials and user will be presented with the authorized menu list.
5. Data entry operator will select enter patient's data menu.	6. System will present the screen to search/select patient id.
7. Data entry operator will enter the patient id and will search for it.	8. System will show the patient account name.

9. Data entry operator will select the account.	10. System will open up the account with all available details and other options.
11. Data entry operator will select create new entry option.	12. System will open up new page asking what type of entry to be fed in.
13. Data entry operator will select the type of entry to be fed in. It could be test results, prescription given by doctor etc.	14. System will open up the screen based on user selection for data entry.
15. Data entry operator will input all the required/provided details on the screen and will click on submit.	16. System will internally process the request and will store the data into the system and will respond with confirmation saying data saved successfully.
17. Data entry operator will then click ok to acknowledge the system message and logout from the system.	18. System will close the session for that user.
Post Condition:	Data entry operator is logged out of the system.

UI Mockups for UC 1 – Basic flow (Covers Actor action & System Response):



AT-Home Services

http://www.gennex.com/athomeservices/casemanagement.php

[Home](#) > New Entry

Create new entry
Review entry
Delete entry
Assign for review
Account settings
Inbox
Log out

You have 5 approved requests
You have 2 rejected requests

Patient Id: 123546789 Patient Name: Mr. ABC XYZ

Select Service: Case Management

Start date: 03/01/2016
End date: 01/31/2017

Type of entry: Prescription

Provider: Hospital 1
Doctor Name: Dr. Doctor Name

Continue
Cancel

AT-Home Services

http://www.gennex.com/athomeservices/casemanagement.php

[Home](#) > [New Entry](#) > Upload doc

Create new entry
Review entry
Delete entry
Assign for review
Account settings
Inbox
Log out

You have 5 approved requests
You have 2 rejected requests

Patient Id: 123546789 Patient Name: Mr. ABC XYZ

Type of entry: Prescription

Chose file C:/Patient/Data/123456789/Prescription.record

Upload

Previous Submit Cancel

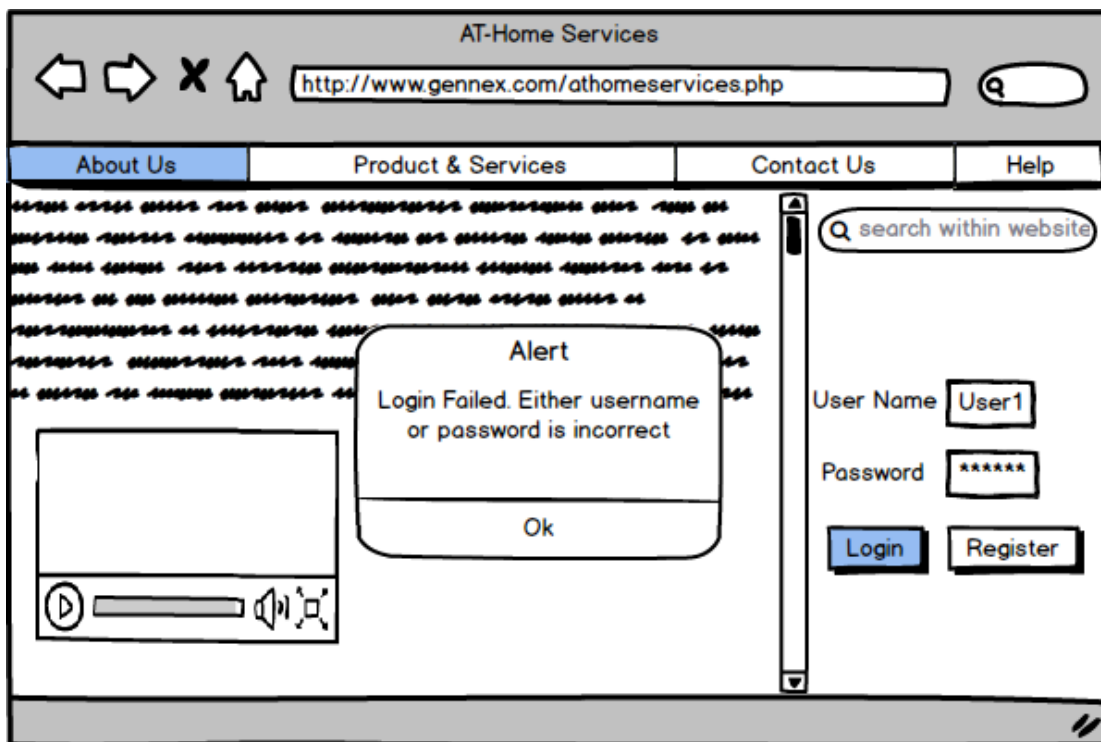
The mockup shows a web browser window titled "AT-Home Services" with the URL "http://www.gennex.com/athomeservices/casemanagement.php". The browser's address bar contains the URL and a search icon. The page has a navigation menu on the left with options: "Create new entry" (highlighted), "Review entry", "Delete entry", "Assign for review", "Account settings", "Inbox", and "Log out". Below the menu is a yellow box with a red ribbon icon containing the text: "You have 5 approved requests" and "You have 2 rejected requests". The main content area has a breadcrumb trail: "Home > New Entry > Upload doc". It contains form fields for "Patient Id: 123546789" and "Patient Name: Mr. ABC XYZ". Below these is a "Type of entry:" dropdown menu set to "Prescription". A central "Alert" box displays "Record submitted successfully" with an "Ok" button. To the left of the alert are buttons for "Chose file" and "Upload". To the right is a button labeled "cription.record". At the bottom are "Previous", "Submit", and "Cancel" buttons.

Alternate Flow 1 (AF1): Login failed

Assumptions: Data entry operator does not have required access to the system.

System Actor Action	System Response
1. Data entry operator will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Data entry operator will login into the system.	4. System will validate the credentials and user will be presented with a screen saying you are not authorized to use this system.
Post Condition:	Data entry operator is not able to log in to the system.

UI Mockups for UC 1 – Alternate flow 1 (Covers Actor action & System Response):



Alternate Flow 2 (AF2): To add new entry again after successfully adding one.

Assumptions: Data entry operator is already logged into the system.

System Actor Action		System Response
1. Data entry operator click ok to acknowledge the system message that data stored successfully.		2. System will provide option to the user whether to add new entry again.
3. Data entry operator select to add new entry again.		4. System will again take the user to user new data entry page.
Post Condition:	Data entry operator is redirected to new data entry page.	
Business Rules:		

Any customer/patient related data – reports, test results etc. need to be made available to customers/patients online, within 24 hours after the transaction/test/service is performed/delivered.
Implementation Constraint:
NA
Open Issues:
How much details about the customer/patient account, these data entry operator can see when they select/search customer/patient by their id.? How much data can be published online for medical records related to patients?

Doctor's sign off for customers'/patients' record, to publish

Brief Description:	The purpose of this Use case is that once the data entry is done for a customer/patient. Then the designated doctor need to verify the entered details and sign it off, so that data is published into the system and all those users who are authorized to access this information can see the data online.
Business Trigger:	Customer/Patient want to see their related details from their account.
Technical Trigger:	Data entry saved into the system and it comes to Doctor's inbox for approval.
Primary Actors:	Doctors with authority of signing off data entries, to publish.

Secondary Actors:	Data entry operator can check whether their request was signed off and published.
Preconditions:	Data entry is done by the data entry operator.
Dependencies:	This use case depends on the activity of data feeding into the system and an approval request has come into Doctor's inbox. So, if data entry and approval request is not generated, this use case will fail.

Basic Flow: Sign off data entry after successful login.	
Assumptions: Doctor has all required access to the system.	
System Actor Action	System Response
1. Doctor will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Doctor will login into the system.	4. System will validate the credentials and user will be presented with the authorized menu list.
5. Doctor will select sign off patient's record menu.	6. System will present the screen to search/select patient record that need approval.
7. Doctor will select patient record that needs to be signed off.	8. System will show the patient record details.
9. Doctor will select the approve button after review.	10. System will save the response and acknowledge that entry has been signed off.

11. Doctor will then click ok to acknowledge the system message and logout from the system.	12. System will close the session for that user.
Post Condition:	Doctor is logged out of the system.

UI Mockups for UC 2 – Basic flow (Covers Actor action & System Response):

The mockup shows a web browser window titled "AT-Home Services" with the URL <http://www.gennex.com/athomeservices/casemanagement.php>. The interface includes a sidebar menu with options: "Create new entry", "Review entry" (highlighted), "Delete entry", "Assign for review", "Account settings", "Inbox", and "Log out". Below the menu, a yellow notification box states: "You have 5 approved requests" and "You have 2 rejected requests". The main content area features a "search Patient" input field and a table with the following data:

Patient Name ▲	Patient Id ▲▼	Service	Select
Patient Name 1	123456789	Case Management	<input checked="" type="radio"/>
Patient Name 2	987456123	Case Management	<input type="radio"/>
Patient Name 3	456123789	Case Management	<input type="radio"/>
Patient Name 4	753159462	Case Management	<input type="radio"/>
Patient Name 5	486217935	Case Management	<input type="radio"/>

At the bottom of the table, there are "Review" and "Cancel" buttons.

AT-Home Services

http://www.gennex.com/athomeservices/casemanagement.php

Review entry
Account settings
Inbox
Log out

You have 5 approval pending
You have 2 reviews pending

search Patient

Patient Name	Patient Id	Serice	Select
Patient Name 1	123456789	Case Management	<input checked="" type="radio"/>
Patient Name 2	987456123	Case Management	<input type="radio"/>
Patient Name 3	456123789	Case Management	<input type="radio"/>
Patient Name 4	753159462	Case Management	<input type="radio"/>
Patient Name 5	486217935	Case Management	<input type="radio"/>

Approve Reject Cancel

Alternate Flow 1 (AF1): Login failed

Assumptions: Doctor does not have required access to the system.

System Actor Action	System Response
1. Doctor will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Doctor will login into the system.	4. System will validate the credentials and user will be presented with a screen saying you are not authorized to use this system.
Post Condition:	Doctor is not able to login to the system.

Alternate Flow 2 (AF2): To approve/sign off another entry after successfully approving one	
Assumptions: Doctor is already logged into the system.	
System Actor Action	System Response
1. Doctor click ok to acknowledge the system message that entry is signed off.	2. System will provide option to the user whether to sign off another entry.
3. Doctor select to approve more entry option.	4. System will again take the user to inbox to show available entries for sign off.
Post Condition:	Doctor is redirected to inbox for pending approval requests.
Business Rules:	
For each customer/patient, the records being fed into the home aid services system by a data entry operator, it needs to be approved by the designated doctor. Once it is approved/signed off by a Doctor, then only it will be visible to all authorized users in the system.	

Implementation Constraint:
For each data entry for customer/patient how to mandate the designated Doctor to approve/sign off the entry as per the service level agreement.
Open Issues:
How many reminders for approval to be sent to Doctors? If Doctors are not approving the requests on time to whom it should be escalated?

Doctor rejects customers'/patients' record publishing

Brief Description:	The purpose of this Use case is that once the data entry is done for a customer/patient. Then the designated doctor need to verify the entered details and sign it off, so that data is published into the system and all those users who are authorized to access this information can see the data online. But, if the system finds any discrepancy within the records fed into the system based on validations put into the system. Then these entries are put into the rejection inbox of Doctor and they have option to reject it and send it back to data entry operator for correction. If not rejected doctors can approve it as per Use case 2.
Business Trigger:	Customer/Patient want to see their related details from their account.
Technical Trigger:	Data entry saved into the system and it comes to Doctor's inbox for approval.
Primary Actors:	Doctors with authority of signing off data entries, to publish.
Secondary Actors:	Data entry operator can check whether their request was signed off or rejected.
Preconditions:	Data entry is done by the data entry operator.
Dependencies:	This use case depends on the activity of data feeding into the system and an approval request has come into Doctor's inbox. So, if data entry and approval request is not generated, this use case will fail.

Basic Flow: Reject data entry after successful login.

Assumptions: Doctor has all required access to the system.	
System Actor Action	System Response
1. Doctor will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Doctor will login into the system.	4. System will validate the credentials and user will be presented with the authorized menu list.
5. Doctor will select sign off patient's record menu.	6. System will present the screen to search/select patient record that need approval.
7. Doctor will select the patient record that needs to be signed off or rejected.	8. System will show the patient record details and highlight records that system thinks, should be rejected.
9. Doctor will select the reject button after review, if he/she finds any issue with the record.	10. System will save the response and acknowledge that entry has been rejected and it will send the request back to data entry operator.
11. Doctor will then click ok to acknowledge the system message and logout from the system.	12. System will close the session for that user.
Post Condition:	Doctor is logged out of the system.

UI Mockups for UC 3 – Basic flow (Covers Actor action & System Response):

AT-Home Services

[←](#) [→](#) [X](#) [🏠](#)

[Review entry](#)
[Account settings](#)
[Inbox](#)
[Log out](#)

You have 5 approval pending

You have 2 reviews pending

Patient Name ▲	Patient Id ◆	Service	Select
Patient Name 1	123456789	Case Management	<input checked="" type="radio"/>
Patient Name 2	987456123	Case Management	<input type="radio"/>
Patient Name 3	456123789	Case Management	<input type="radio"/>
Patient Name 4	753159462	Case Management	<input type="radio"/>
Patient Name 5	486217935	Case Management	<input type="radio"/>

AT-Home Services

[←](#) [→](#) [X](#) [🏠](#)

[Create new entry](#)
[Review entry](#)
[Delete entry](#)
[Assign for review](#)
[Account settings](#)
[Inbox](#)
[Log out](#)

You have 5 approved requests

You have 2 rejected requests

☒ Subject 1

☒ Subject 2

☒ Subject 3

☒ Subject 4

☒ Subject 5

Alternate Flow 1 (AF1): Login failed	
Assumptions: Doctor does not have required access to the system.	
System Actor Action	System Response
1. Doctor will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Doctor will login into the system.	4. System will validate the credentials and user will be presented with a screen saying you are not authorized to use this system.
Post Condition:	Doctor is not able to login to the system.
Alternate Flow 2 (AF2): To reject another entry after successfully rejecting one	
Assumptions: Doctor is already logged into the system.	
System Actor Action	System Response
1. Doctor click ok to acknowledge the system message that entry is rejected.	2. System will provide option to the user whether to reject another entry.
3. Doctor will select reject more entry option.	4. System will again take the user to inbox to show available entries for rejection.
Post Condition:	Doctor is redirected to inbox for pending requests.
Business Rules:	
For each customer/patient, the records being fed into the home aid services system by a data entry operator, must be correct by all means. So, there will be pre-defined logic in the system to	

validate the input. Apart from there will be more logic that would highlight requests in Doctor's queue to get his/her attention if the request need to be rejected.
Implementation Constraint:
For each data entry for customer/patient how to mandate the designated Doctor to approve/sign off the entry as per the service level agreement.
Open Issues:
<p>What are the parameters that needs to be validated for each data entry, to identify whether the records needs doctor attention for rejecting it?</p> <p>How many reminders for approval to be sent to Doctors?</p> <p>If Doctors are not approving the requests on time to whom it should be escalated?</p>

Customers'/Patients' using online system to view & track their medical records.

Brief Description:	The purpose of this Use case is that customers/patients can view and track their medical records using the Home aid services system. They can use it from their home or any place else. The records, reports will become handy to them and they don't have to go to the Diagnostic labs to collect reports, test results etc.
Business Trigger:	Customer/Patient want to see their related details from their account.
Technical Trigger:	Data is fed to the system and is published.
Primary Actors:	Customer/Patients

Secondary Actors:	Doctors/Nurses, if they want to see medical history of a particular patient.
Preconditions:	Data is published to the system.
Dependencies:	This use case depends on the activity of data feeding and publishing into the system.

Basic Flow: View medical history/records after successful login.	
Assumptions: Customers/Patients have all required access to the system.	
System Actor Action	System Response
1. Customers/Patients will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Customers/Patients will login into the system.	4. System will validate the credentials and user will be presented with the authorized menu list.
5. Customers/Patients will select view my records option.	6. System will present the screen with all the available records.
7. Customers/Patients will select a record to see its associated details.	8. System will show all the details for that particular record.
9. Customers/Patients will close the record and logout from the system	10. System will close the session for that user.
Post Condition:	Doctor is logged out of the system.

UI Mockups for UC 4 – Basic flow (Covers Actor action & System Response):

AT-Home Services

http://www.gennex.com/athomeservices/casemanagement.php

View History
Search History
Account settings
Inbox
Log out

You have 5 approved requests
You have 2 rejected requests

Date	Doctor	Case history	Select
05/01/2015	Dr. Name 1	Blood test	<input checked="" type="radio"/>
01/02/2015	Dr. Name 2	Blood test	<input type="radio"/>
02/08/2015	Dr. Name 3	Blood test	<input type="radio"/>
09/15/2015	Dr. Name 4	Blood test	<input type="radio"/>
06/21/2015	Dr. Name 5	Blood test	<input type="radio"/>
03/05/2015	Dr. Name 6	Blood test	<input type="radio"/>

View Cancel

AT-Home Services

http://www.gennex.com/athomeservices/casemanagement.php

View History
Search History
Account settings
Inbox
Log out

You have 5 approved requests
You have 2 rejected requests

Select date range to search your history

Start date: 03/01/2015

End date: 01/31/2016

Search Cancel

Alternate Flow 1 (AF1): Login failed for Customer/Patient

Assumptions: Customer/Patient does not have required access to the system.	
System Actor Action	System Response
1. Customer/Patient will open the Home aid services portal.	2. To check the authenticity and authorization system will present the login screen.
3. Customer/Patient will login into the system.	4. System will validate the credentials and user will be presented with a screen saying you are not authorized to use this system.
Post Condition:	Customer/Patient is not able to login to the system.
Alternate Flow 2 (AF2): To download or print the medical record after viewing it.	
Assumptions: Customer/Patient is already logged into the system.	
System Actor Action	System Response
1. Customer/Patient will select a record to see its associated details.	2. System will show all the details for that particular record.
3. Customer/Patient will click on download/print option available on the details page.	4. System will allow it to download and then will redirect to print settings and options.
Post Condition:	Customer/Patient downloaded and printed the report.
Business Rules:	
Customer/Patient should be able to see all their medical history from the online portal. They should be able to view it, download it, and print it.	
Implementation Constraint:	

NA

Open Issues:

What self-help options/features need to be provided on the web pages of portal so that customer can easily understand the web page and use it properly?

What kind of navigation system should be implemented like should jump menu be provided, should search option be provided etc.

USE CASE TABLES

Actor (s)	Event	Trigger	Dependen cy	Response s
Customer (Patients, Patient's caretaker) , Employee (Doctors, Nurses, Administrative staff, System Administrator, physiotherapist)	Create Home Aid Service Account	The user gets registered when she/he hits the create account button. The user is registered when user verifies its email address	User should have email address to verify the registration process.	User gets registered to the system and his/her account on the system gets created.
Patient, Front Desk, Caretaker	Booking an Appointment	When the user clicks on "Book an Appointment"	1.Practitioner Availability 2.Cab Availability	User is able to book an appointment.

			3.Account Creation 4.Address Verification 5.Instrument Availability	
Customer	Placing Orders and receiving Deliveries	Customer needs a health device.	Customers should have a payment method already registered with the system. Be it credit card, debit card, online banking etc.	Customer successfully placed an order and the product will be delivered.
Customer	Returns and Refund	Customer receives a faulty/incorrect product.	Customers have placed an order through the system.	The product is returned by the customer and a refund has been processed

				for them by the system.
Patient/Guardian/Disabled Patient	Opting for Wellness service.	When the patient books an appointment on the GenNex website through their account.	User should have a valid account on the system and should have booked for an appointment.	User gets registered for the wellness service
Patient/Guardian/Disabled Patient	Bill Payment	When the doctor notifies the system that the service has been successfully delivered to the patient.	User should have opted for a product or service and it has been delivered	User gets billed and he/she pays the balance.
Data entry operator	Entering customers'/patients' data into the system.	Publishing of Doctor's prescription, Test results etc. online for customers/patients.	Dependency of this use case is on the activity of giving access rights by the system	Record is fed into the system.

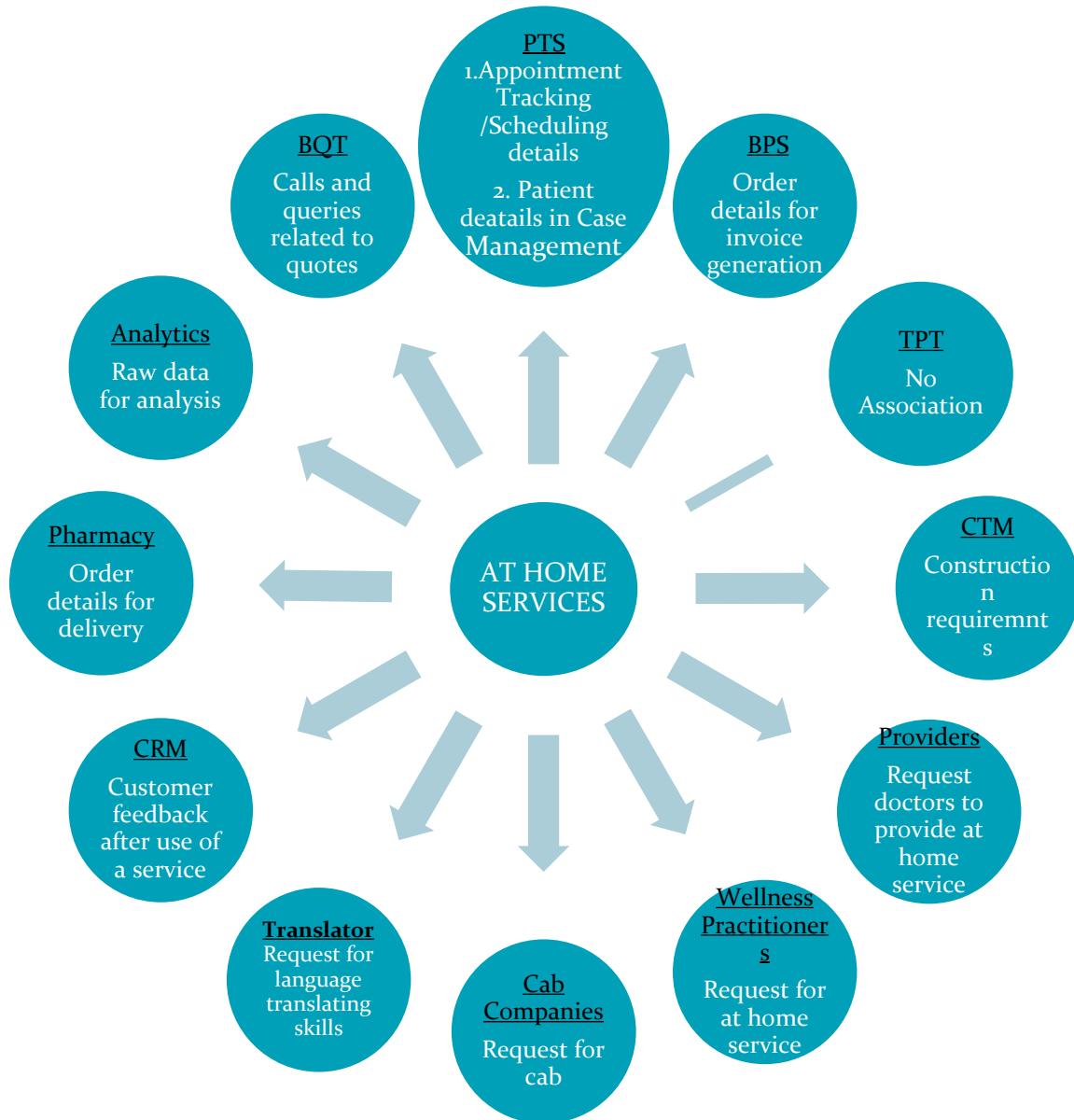
		Login by a data entry operator into the portal	administrator to the data entry operator. If access giving use case is not successful then this use case will never succeed.	
Doctors	Doctor's sign off for customers'/patients' record, to publish	Customer/Patient want to see their related details from their account. Data entry saved into the system and it comes to Doctor's inbox for approval.	This use case depends on the activity of data feeding into the system and an approval request has come into Doctor's inbox. So, if data entry and approval request is not generated,	Records entered by operator is either signed off or rejected by the doctor.

			this use case will fail.	
Customer (Patients, Guardian) Employee (Doctors, nurses)	Viewing, downloading, and printing the medical history.	Customer/Patient want to see their related details from their account. Data is fed to the system and is published.	This use case depends on the activity of data feeding and publishing into the system.	User was able to view, download, and print the required data.

DATA DEPENDENCY DIAGRAM

SYSTEM ABBREVIATION	SYSTEM NAME
PTS	Patient Tracking System
BPS	Billing and Payment System
TPT	Third Party Testing
CTM	Construction Management
Providers	Providers/Clinics/Hospitals
Wellness Practitioners	Wellness Practitioners
Cab Companies	Transportation Vendors
Translator	Translator
CRM	Customer Relationship Management
Pharmacy	Pharmacy System
Analytics System	Analytics
BQT	Benefit Quoting Tool

Outgoing Data Dependency

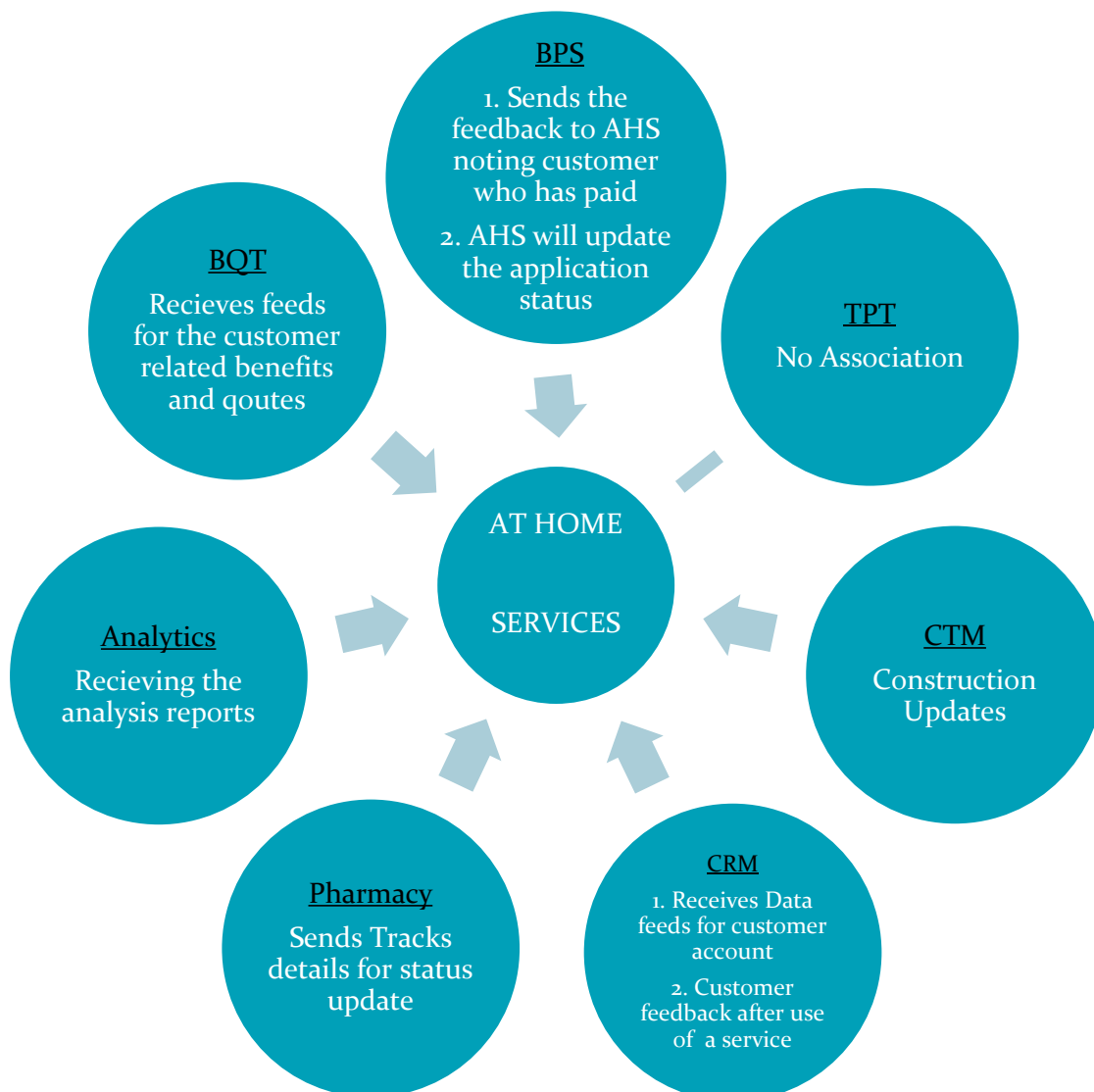


The above diagram shows the outgoing data dependency between AT Home Services and the other systems of GenNex. The outgoing data interaction between systems is explained below:

1. PTS – At Home Service provides data related to appointment tracking and scheduling as well as case management details
2. BPS – At Home Service provides the order details for the purchase of a product or a service. This is done for invoice generation
3. TPT – At Home Service sends no feed to TPT team
4. CTM – At Home service provides construction requirement details are provided to the CTM team

5. Providers – At Home service requests the doctors to provide service for patients at home.
6. Wellness Practitioner - At Home service requests wellness practitioner like yoga expert, physiotherapist, chiropractor etc to provide at home service
7. Cab Companies – At Home services sends out request for cab , type and reservation details
8. Translator - Translator services are used for effective communication and to overcome language barriers
9. CRM – AT Home Service provides customer feedback of a product or a service to the CRM team
10. Pharmacy – AT Home Service sends them order details for delivery
11. Analytics –At Home Service provides data to the analytics team to find the most used service, most requested practionor etc
12. BQT – At Home Services directs calls and queries related to quotes to BQT team

Incoming Data Dependency



The above diagram shows the incoming data dependency between AT Home Services and the other systems of GenNex. The incoming data interaction between systems is explained below:

1. BPS – At Home Service receives the feedback of customer who has paid and hence AHS will update the application status
2. TPT – At Home Service receives no feed from TPT team
3. CTM – At Home service receives construction update details that are provided to the customer
4. CRM – AT Home Service receives customer feedback of a product or a service from the CRM team . Also Receives Data feeds for customer account
5. Pharmacy – AT Home Service receives them order details for drone delivery
6. Analytics –At Home Service receives data from the analytics team to find the most used service, most requested practiser etc
7. BQT – At Home Services receives details of customer who requested quotes from BQT team