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| IUPUI CSCI 45200 – Spring 2014 |
| The Healthy People Pharmacy System |
| Agile Development – Inception Phase |
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| **Naeem Tai** |
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| This document is prepared for the Healthy People Pharmacy system during the Inception phase of the Agile Development process. This document is prepared in accordance with the Assignment 1 requirement and contains Answers to the Asked Questions, Vision Document, Risk list, Iteration/Phase Plan, Use Case list, and Use Case Diagram. |

# Answers to the Questions:

1. Sources of Revenue:
   1. sell of general merchandise items
   2. sell of pharmaceutical items
   3. rent for rental items
   4. charge for damaged rental items
2. Feasibility: this project is feasible for a team of six to seven developers.
3. Actors and Goals:
   1. Manager/Owner: monitor sales, inventory, and distribution of goods information
   2. Cashier: process general sales, process rental checkouts, process rental returns
   3. Pharmacist: process pharmaceutical sales in accordance with medicine regulations
   4. Customer: buy items, rent items, pay for items and rentals
   5. Payment Authorization System: validate payment information
   6. Medicine Regulations System: determine customer eligibility to purchase a medicine
   7. Inventory System: maintain accurate information about availability and distribution of goods
4. Potential Use Cases (details in Use Case List, pg. 5):
   1. Process Sale
   2. Process Rental Checkout
   3. Process Rental Returns
   4. Process Pharmaceutical Sale
   5. See Inventory and Distribution
5. Two selected Use Cases for Use Case documents:
   1. Process Rental Checkout (details in Use Case UC1, pg. 6-7)
   2. Process Pharmaceutical Sale (details in Use Case UC2, pg. 8-9)

# Vision Document

**Introduction:**

We envision the new Healthy People Pharmacy system that handles multiple types of transactions and communicates with external systems to maintain inventory and distribution of goods information and follow pharmaceutical regulations.

**Positioning:**

Currently, the owner of the Healthy People Pharmacy does not have any system to help manage their sales and distribution of sales. This system will allow the cashiers and pharmacists to handle multiple types of sales to handle general merchandise items sales, pharmaceutical items sales, and rental checkout and returns. The system will also maintain sales data, inventory, and distribution of goods information.

**Key High-Level Goals and Problems:**

Currently, there is no system to manage sales and inventory for the Healthy People Pharmacy. This system will be integrated with external systems to provide quality experience to users and maintain accurate information about sales and inventory. There will also be some flexibility to comply with change in medicine regulations.

**User-Level Goals:**

* Owner/Manager: wants an easy electronic way to manage sales and inventory/distribution
* Cashier: wants an accurate, fast, and error-free system to check-in and check-out for customers and take payments
* Pharmacist: wants an accurate, fast, and error-free systems to perform sales of pharmaceutical items and accept payments
* Customer: wants an accurate information about purchase; wants fast and positive experience
* Payment Authorization Service: wants to receive accurate payment information in correct format
* Medicine Regulations System: wants to receive accurate customer information in correct format to determine eligibility

**Product Overview:**

The Healthy People Pharmacy system will usually reside in the pharmacy/store. It will allow multiple types of transactions and collaborate with other systems to process transactions and maintain sales and inventory.

**Summary of Features:**

* Multiple transactions types
* Sales capture
* Payment authorization
* Integration of medicine regulations rules
* Real-time inventory and distribution of goods information

# Risk List

* Business
  + Changes in items’ prices: update prices daily as they change
* Laws/Rules/Regulations
  + Changes in medicine regulations: collaborate with new Medicine Regulations System
* Technical
  + System updates: update every month to post changes and improve quality
  + System fail/error: erase incomplete transactions
  + Data recovery: backup inventory and sales data every night
* Resource
  + Power outage: erase incomplete transaction, stop updates to inventory, stop collaboration between systems
  + Collaboration with external systems: maintain continuous connection with external systems
  + Loosing connection with external systems: alert error and suggest alternative way to perform operation
* Scheduling: Spend about six weeks on each iteration (details in Iteration/Phase Plan, pg. 4); enhance the system in each iteration

# Iteration/Phase Plan

We plan to develop system by gathering and developing all the necessary resources. We plan to develop the system step by step and enhance it every iteration by adding and improving its features. We plan to use already made and pluggable Payment Authorization Service and Medicine Regulations System. This will allow us to easily change these external components of the system. We plan to develop a new checkout register and a new inventory system. This will allow us to control the flow in the system and store multiple types of information in the inventory such as items availability and rental distribution.

In every iteration we will plan, design, develop, and test the system. We plan to make each iteration about six weeks long. We plan to go through each iteration by doing the following things in order:

* Plan (requirements, goals, etc.): 1 week
* Design: 1 week
* Develop: 2 weeks
* Test/Evaluate: 1 week
* Feedback: 1 week

# Use Case List

* Process Sale

A customer arrives at a checkout with items to purchase. The cashier uses the system to start a new transaction. The cashier enters each item. The system presents item description, its price, and running total. The customer enters payment information. The system validates and records the payment information. The system updates inventory and generates a receipts. The customer receives a receipt and leaves with the items.

* Process Rental Checkout

A customer arrives at a checkout with items to rent. The cashier uses the system to start a new transaction. The cashier enters the item. The system presents the item details, the length of time the item is being rented, and rent. The customer enters payment information. The system validates and records the payment information. The system updates inventory and distribution of goods information. The customer receives a receipt from the system and leaves with the pharmaceutical items.

* Process Rental Returns

A customer arrives at a checkout with rental items to return. The cashier uses the system to start a new transaction. The cashier enters the item. The system compares when it was due with when it was returned. The system presents the item details, the length of time it was rented, and any additional charge. The cashier verifies the item’s condition and applies an additional charge if the item was damaged. The system presents the total. The customer enters payment information. The system validates and records the payment information. The system updates inventory and distribution of goods information. The customer receives a receipt from the system and leaves.

* Process Pharmaceutical Sale

A customer arrives at a checkout with pharmaceutical items to buy. The pharmacist uses the system to start a new transaction. The pharmacist enters the item. The system prompts pharmacist to enter some customer information to determine eligibility. The pharmacist asks customer for this information and enters in the system. The system determines customer eligibility. The system displays item description and price if customer is eligible, or alerts if customer is ineligible to buy the item. The customer enters payment information. The system validates and records the payment information. The system updates inventory. The customer receives a receipt from the system and leaves with the rental items.

* See Inventory and Distribution

The owner/manager requests to see the inventory and distribution of goods information. The system asks for the password to authenticate the owner/manager. The system presents the most recent inventory details and distribution of goods information. The manager logs out of the system.

# Use Case UC1: Process Rental Checkout

A customer arrives at a checkout with items to rent. The cashier uses the system to start a new transaction. The cashier enters the item. The system presents the item details, the length of time the item is being rented, and rent. The customer enters payment information. The system validates and records the payment information. The system updates inventory and distribution of goods information. The customer receives a receipt from the system and leaves with the pharmaceutical items.

**Use Case Name:** Process Rental Checkout

**Scope:** the Healthy People Pharmacy application

**Level:** user goal

**Primary Actor:** cashier

**Stakeholders and Interests:**

* Cashier: wants accurate and fast entry of items; wants error-free payments
* Customer: wants accurate information about his/her purchase; wants fast and positive checkout experience
* Payment Authorization Service: wants to receive accurate payment information in correct format
* Manager: wants updated inventory and distribution of goods information

**Preconditions:** cashier is identified and authenticated; inventory and distribution of goods is accurate; the system is running fine with all the needed resources

**Success Guarantee (Post Conditions):** sale is recorded; payment information is recorded; receipt is generated; inventory and distribution of goods information are updated.

**Main Success Scenario (Basic Flow):**

1. Customer arrives at checkout with items to rent.
2. Cashier starts a new transaction.
3. Cashier enters item identifier.
4. System presents item description, length of time the item is being rented, rent, and running total.

Steps 3 – 4 are repeated until cashier indicates the end of sale.

1. System presents the final total.
2. Customer chooses payment method and the system verifies the payment information.
3. System logs completed sale, payment information, updates inventory and distribution of goods information.
4. System generates a receipt.
5. Customer leaves with the rental items.

**Extensions (Alternative Flows):**

* Invalid item ID (not found in system)

1. System signals an error and rejects entry.
2. Cashier responds to the error:
   1. There is a human readable item ID:
      1. Cashier manually enters the item ID
      2. System displays item description, length of time the item is being rented, and rent
         1. Invalid item ID: System indicates error; cashier tries an alternate method.
   2. There is no item ID:
      1. Cashier performs Find Product on the system.

* Customer chooses to pay by cash
  1. Cashier enters the cash amount tendered.
  2. System presents the change due, releases the cash drawer, records cash payment, and generates receipt.
  3. Cashier gives the change back to customer and closes the cash drawer.
* Customer chooses to pay by credit
  1. Customer enters their credit information.
  2. System sends the information to Payment Authorization Service.
  3. System receives payment approval.
     1. The payment information is approved.
        1. System presents the change due, releases the cash drawer, records cash payment, and generates receipt.
     2. The payment information is denied.
        1. Cashier asks the customer for alternate payment.

**Special Requirements:**

* Easily readable monitor for cashier, and a display screen for customer
* Fast response from the system and Payment Authorization System

**Technology and Data Variations List:**

* Item ID receiver (barcode scanner)
* Keyboard to manually enter item ID
* Credit card reader, signature capture device

**Frequency of Occurrence:** often, nearly continuous

**Miscellaneous (Open Issues):**

* What to do if cashier cannot enter the item by any ways?
* What to do if the system fails in the middle of a transaction?

# Use Case UC2: Process Pharmaceutical Sale

A customer arrives at a checkout with pharmaceutical items to buy. The pharmacist uses the system to start a new transaction. The pharmacist enters the item. The system prompts pharmacist to enter some customer information to determine eligibility. The pharmacist asks customer for this information and enters in the system. The system determines customer eligibility. The system displays item description and price if customer is eligible, or alerts if customer is ineligible to buy the item. The customer enters payment information. The system validates and records the payment information. The system updates inventory. The customer receives a receipt from the system and leaves with the rental items.

**Use Case Name:** Process Pharmaceutical Sale

**Scope:** the Healthy People Pharmacy application

**Level:** user goal

**Primary Actor:** pharmacist

**Stakeholders and Interests:**

* Cashier: wants accurate and fast entry of items; wants error-free payments
* Customer: wants accurate information about his/her purchase; wants fast and positive checkout experience
* Payment Authorization Service: wants to receive accurate payment information in correct format
* Medicine Regulations system: wants to receive accurate customer information in correct format
* Manager: wants updated inventory

**Preconditions:** pharmacist is identified and authenticated; inventory is accurate; the system is running fine with all the needed resources

**Success Guarantee (Post Conditions):** sale is recorded; payment information is recorded; receipt is generated; inventory and distribution of goods information are updated.

**Main Success Scenario (Basic Flow):**

1. Customer arrives at checkout with pharmaceutical items to buy.
2. Pharmacist starts a new transaction.
3. Pharmacist enters item identifier.
4. System presents item description, and asks for some customer information.
5. Pharmacist enters this information.
6. System determines customer eligibility.
7. System displays item description and running total.

Steps 3 – 7 are repeated until pharmacist indicates the end of sale.

1. System presents the final total.
2. Customer chooses payment method and the system verifies the payment information.
3. System logs completed sale, payment information, and updates inventory.
4. System generates a receipt.
5. Customer leaves with the pharmaceutical items.

**Extensions (Alternative Flows):**

* Invalid item ID (not found in system)

1. System signals an error and rejects entry.
2. Cashier responds to the error:
   1. There is a human readable item ID:
      1. Pharmacist manually enters the item ID.
      2. System presents item description, and asks for some customer information.
      3. Pharmacist enters this information.
      4. System determines customer eligibility.
      5. System displays item description and running total.
         1. Invalid item ID: System indicates error; pharmacist tries an alternate method.
   2. There is no item ID:
      1. Pharmacist performs Find Product on the system.

* Customer chooses to pay by cash
  1. Pharmacist enters the cash amount tendered.
  2. System presents the change due, releases the cash drawer, records cash payment, and generates receipt.
  3. Pharmacist gives the change back to customer and closes the cash drawer.
* Customer chooses to pay by credit
  1. Customer enters their credit information.
  2. System sends the information to Payment Authorization Service.
  3. System receives payment approval.
     1. The payment information is approved.
        1. System presents the change due, releases the cash drawer, records cash payment, and generates receipt.
     2. The payment information is denied.
        1. Pharmacist asks the customer for alternate payment.
* Customer is eligible to buy the pharmaceutical item.
  1. The system displays the item description, price, and running total.
* Customer is ineligible to buy the pharmaceutical item.
  1. The system alerts this ineligibility and does not display the item.

**Special Requirements:**

* Easily readable monitor for cashier, and a display screen for customer
* Fast response from the system and Payment Authorization System
* Fast response from Medicine Regulations System.

**Technology and Data Variations List:**

* Item ID receiver (barcode scanner)
* Keyboard to manually enter item ID and entering customer information
* Credit card reader, signature capture device

**Frequency of Occurrence:** often, nearly continuous

**Miscellaneous (Open Issues):**

* What to do if cashier cannot enter the item by any ways?
* What to do if the system fails in the middle of a transaction?

# Use Case Diagram

The Healthy People Pharmacy System

Process Sale

<< actor >>

Payment Authorization Service

Customer

Process Rental Checkout

Cashier

Process Rental Return

<< actor >>

Medicine Regulations System

Process Pharmaceutical Sale

Pharmacist

<< actor >>

Inventory System

See Inventory and Distribution Information

Manager/Owner