
Domain Analysis

For

Video Rental Store Management System

Version 2.0

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Video Rental Store <i>Domain Scope</i> Version 2.0 - November 25, 2020	
<i>The domain scope is a list of the overall outline to the Video Rental Store System, showing how each aspect is used and the information each domain handles.</i>	
DOMAIN	SCOPE OUTLINE
Customer Management	All activities that directly interact with the customer information fall within this domain, including: <ul style="list-style-type: none"> • Name • Driver license • Date of birth • Credit card information • Home address • Phone number • Email address • Current rentals (up to 3 rentals)
Employee Management	All activities that directly interact with the employee information fall within this domain, including: <ul style="list-style-type: none"> • Name • Home address • Phone number • Full-time or part-time availability • Number of hours worked by week
Inventory Management	All activities that directly interact with the inventory fall within this domain, including: <ul style="list-style-type: none"> • Title • Actor(s) • Director(s) • Genre(s) • Price to rent • Price to buy • Amount in-stock • Amount bought • Amount sold • Currently rented by whom • Requested by whom • Popularity
Retail Management	All activities involving buying and renting DVDs in the store, including: <ul style="list-style-type: none"> • Renting DVDs • Selling DVDs • Processing returned DVDs

Video Rental Store
Domain Dictionary
Version 2.0 - November 25, 2020

The Domain Dictionary organizes the domain concepts in the prior table and divides the concepts into specific types. These types range from roles and objects to processes and functions.

NAME	TYPE	DESCRIPTION
Credit Card	Object	This information will be saved along with the rest of the <u>customer information</u> . Credit card information is also used when customers receive <u>late fees</u> as a form of payment.
Customer	Role	Anybody over the age of 18 with a driver license and a valid credit card that is also not banned from the store who <u>buys</u> or <u>rents DVDs</u> from the store.
Customer Information	Object	The <u>customer information</u> is data that is needed to fulfill the <u>checkout</u> process. Information needed includes their phone number, address, date of birth, <u>credit card information</u> , and email. Some of this information will also be utilized for the <u>alert</u> system.
DVD	Object	The main product of the store that will be seen in each <u>purchase</u> and <u>inventory management</u> .
Employee	Role	Salaried workers employed by the <u>owner</u> . Scans movies and keeps track of what is <u>rented</u> and bought from the store. Controls transactions that occur when a <u>Customer</u> makes a <u>purchase</u> .
Inventory Management	Process	The act of reviewing <u>DVDs</u> both in stock at the store and <u>purchased</u> and <u>rented</u> by <u>customers</u> . This process will record and keep track of all <u>DVDs</u> to allow for the <u>Owner</u> to review overall stock and, if necessary, stock replenishment.
Owner/Manager	Role	Administrators and that have more authority in the system than that of <u>employees</u> . They will be given an administrator login for the system, allowing them to view all <u>Customer</u> and <u>employee</u> information.
Payroll	Process	Can only be carried out by the <u>owner</u> . Allows for the review of <u>employee</u> hours on time cards and submits payment to the <u>employees</u> via direct deposit

Popularity	Formula	The <u>popularity</u> of <u>DVDs</u> is a term that can be used when searching in <u>inventory</u> . <u>Popularity</u> is determined by the amount of sales and rentals a particular <u>DVD</u> title has gone through in a certain period of time.
Rent	Process	The transaction in which a <u>customer</u> temporarily receives access to a <u>DVD</u> , and is allowed to keep said <u>DVD</u> for a set amount of time.
Returns	Process	When <u>renting</u> a DVD, once a <u>customer</u> reaches the allotted time they are allowed to have, they must give the <u>DVD</u> back to the store. This will be added to the <u>inventory</u> once the process is completed.
Search	Function	The <u>search</u> function is a function that will allow for the <u>owner</u> and the <u>employee</u> to look up either <u>customer information</u> or <u>DVD inventory</u> database. Key data that will be used in the search function include <u>customer's information</u> and <u>DVD</u> information such as popularity, actors, directors, and recent releases.
Sell	Process	The transaction in which a <u>customer</u> permanently owns a <u>DVD</u> in exchange for a one-time payment.

Video Rental Store
Business Rule Dictionary
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The Rules Dictionary contains the rules of the business that must be followed. These rules can be constraints on the system as well as rules that help the actors of the system do their job better.

ID	Rule Definition	Type	Source
BR1	A customer is anybody over the age of 18 with a driver license and a valid credit card who buys or rents DVDs from the store.	Fact	Domain dictionary
BR2	An employee is any salaried worker employed by the owner .	Fact	Domain dictionary
BR3	An owner is the owner of the video rental store.	Fact	Domain dictionary
BR4	Anyone who is under the age of 18 cannot become a customer .	Constraint	Store policy
BR5	Anyone who does not have a valid driver license cannot become a customer .	Constraint	Store policy
BR6	Anyone who does not have a valid credit card cannot become a customer .	Constraint	Store policy
BR7	The owner and the employee are responsible for keeping the following data about customer information: <ul style="list-style-type: none"> • Name • Driver license • Date of birth • Credit card information • Home address • Phone number • Email address • Current rentals 	Fact	Store policy
BR8	The owner is responsible for keeping the following data about employee information: <ul style="list-style-type: none"> • Name • Home address • Phone number • Full-time or part-time availability • Number of hours worked by week 	Fact	Store policy
BR9	Only the owner has access to data about employee information.	Constraint	Store policy

BR10	<p>The owner and the employee are responsible for keeping the following data about DVD inventory:</p> <ul style="list-style-type: none"> • Title • Actor(s) • Director(s) • Genre(s) • Price to rent • Price to buy • Amount in-stock • Amount currently rented • Amount bought • Amount sold • Currently rented by whom • Requested by whom • Popularity 	Fact	Store policy
BR11	The owner decides which DVDs currently in stock to rent or put up for sale.	Fact	Store policy
BR12	The owner and the employee are responsible for tracking customer's DVDs requests.	Fact	Store policy
BR13	The owner and the employee are responsible for renting, selling, and processing returned DVDs to customers at checkout.	Fact	Store policy
BR14	If the credit card has expired, then the owner and the employee are responsible for alerting the customer through email notifications.	Action enabler	Store policy
BR15	If the requested DVDs become available, then the owner and the employee are responsible for alerting the customer through email notifications.	Action enabler	Store policy
BR16	The email notification for available requested DVDs can only be sent to customers that requested it first.	Constraint	Store policy
BR17	If the provided credit card information is not valid, then the owner or the employee are responsible for alerting the customer at checkout.	Action enabler	Store policy
BR18	If the provided credit card is not currently expired but will expire at the rental due date, then the owner or the employee are responsible for alerting the customer at checkout.	Action enabler	Store policy
BR19	If the customer has reached or will reach 3 total active rentals, then the owner or the employee are responsible for warning the customer at checkout.	Action enabler	Store policy
BR20	Customers cannot have more than 3 active rentals at any time.	Constraint	Store policy

BR21	All customers have 7 days to return the DVDs starting from the date of rental.	Fact	Store policy
BR22	If a customer has not returned the DVDs after 7 days, then the rental is considered overdue.	Inference	Store policy
BR23	If a rental is overdue, then the customer will be charged \$1.00 per late day up to 7 days and then finally the customer will be charged with the price of the overdue DVD.	Action enabler	Store policy
BR24	If the customer returns the rental, then the rental will be marked as returned.	Inference	Store policy
BR25	The popular demand for DVDs can be determined by tracking a streak of rentals. In other words, the longer the DVDs stay rented and how often it is rented determines the popularity of DVDs.	Computation	Store policy