Data Management Strategy

For our data management strategy, we chose to use five different databases in an SQL format to keep everything organized and easily accessible. Our original database plans only used three databases, an employee database, a vehicle database and a client database, but we realized that there were still important items not covered by these three databases.

Due to that, we added another two databases to the plan, a location database and a payment database. We considered splitting the employee database into three more, but decided that that would repeat too much information and simply chose to use another field in the database to indicate the level of the employee.

We chose to do a purely SQL database because of how our data is structured. There is very little that would require large changes, so the rigid setup of SQL is much better suited to our needs. The only one of our current databases that would likely find a non-SQL structure as effective would likely be the employee database, especially if the three subclasses of the Employee class were included in the database.

The below tables cover how our databases are structured, including descriptions of the fields and of the database itself.

Name: Vehicle Database
Type: SQL Database
Description: Contains information about vehicles

Name	carID	*Name*	make
Type	int	*Type*	string
Description	ID number of the car	*Description*	The make of the car

Name	model	*Name*	year
Type	string	*Type*	int
Description	The model of the car	*Description*	The year of the car

Name	isLuxury	*Name*	status
Type	bool	*Type*	bool
Description	Marks if the car is a luxury car	*Description*	Marks if the car is currently rented

Name	price	*Name*	locationID
Type	int	*Type*	int
Description	The base price of the car	*Description*	ID number of the location the car is held at

Name: Employee Database
Type: SQL Database
Description: Contains information about employees

Name	employeeID	*Name*	username
Type	int	*Type*	string
Description	ID number of the employee	*Description*	The username of the account

Name	password	*Name*	email

Type	string	*Type*	string
Description	The password of the account	*Description*	The email associated with the account

Name	twoFactor	*Name*	name
Type	bool	*Type*	string
Description	Indicates if the account uses two factor authorization	*Description*	The name of the employee

Name	locationID	*Name*	employeeLevel
Type	int	*Type*	string
Description	ID number of the location the employee currently works at	*Description*	Indicates what level of access the employee has in the system

Name: Client Database
Type: SQL Database
Description: Contains information about clients

Name	clientID	*Name*	username
Type	int	*Type*	string
Description	ID number of the client	*Description*	The username of the account

Name	password	*Name*	email
Type	string	*Type*	string
Description	The password of the account	*Description*	The email associated with the account

Name	twoFactor	*Name*	name
Type	bool	*Type*	string

Description	Indicates if the account uses two factor authorization		*Description*	The name of the client

Name	address		*Name*	birthdate
Type	string		*Type*	string
Description	The provided client address		*Description*	The birthdate of the client

Name	phoneNumber		*Name*	zipcode
Type	int		*Type*	int
Description	The provided phone number of the client		*Description*	The current zip code of the client

Name	licenseNumber		*Name*	paymentID
Type	string		*Type*	int
Description	The license number of the client		*Description*	ID number of the client's payment method

Name: Location Database
Type: SQL Database
Description: Contains information about locations

Name	locationId		*Name*	name
Type	int		*Type*	string
Description	ID number of the location		*Description*	The name of the location

Name	maxCapacity		*Name*	carAmount
Type	int		*Type*	int
Description	The maximum amount of cars that can be held at the location		*Description*	How many cars are currently held at the location

Name: Payment Database
Type: SQL Database
Description: Contains information about client payment information

Name	paymentID		*Name*	cardType
Type	int		*Type*	string
Description	ID number of payment		*Description*	The type of card

Name	cardNum		*Name*	cvv
Type	int		*Type*	int
Description	The card number		*Description*	The CVV of the card

Name	billingZip		*Name*	billingAddress
Type	string		*Type*	string
Description	The provided billing zip code		*Description*	The provided billing address

Name	month		*Name*	day
Type	int		*Type*	int
Description	Expiration month		*Description*	Expiration day