Data Management Strategy

Remarks

- Security is a critical aspect when dealing with data and databases (DB). With a significant increase of hacking activities worldwide, it is crucial to implement secure DB infrastructure for our project. Security is a challenge that evolves as time evolves. Therefore, although the following Data Management Strategy is fairly secure, we are constantly researching and trying to implement stronger security. Overall, it is best practice to add as many layers of security as possible. One practical way to implement this is by utilizing several DB instead of just 1 to split out data amongst the same topography.

Account Management DB

- This DB is responsible for withholding all valuable user information ranging from email address to their password. This DB is highly likely to be most targeted by malicious hackers due to the significant amount of valuable data. One way to mitigate this risk is by implementing another DB and splitting the amount of data in those two DB. By doing this, it poses another layer of security.
- This no-SQL database contains a user's email, username, hashed password, payment info, and their reward points.
- This database works closely with the user endpoint and Transaction Records Server (TRS).
- Once a valid user is authenticated via checking through this database, an authentication token is granted to the user via Account Management Server (AMS).
-

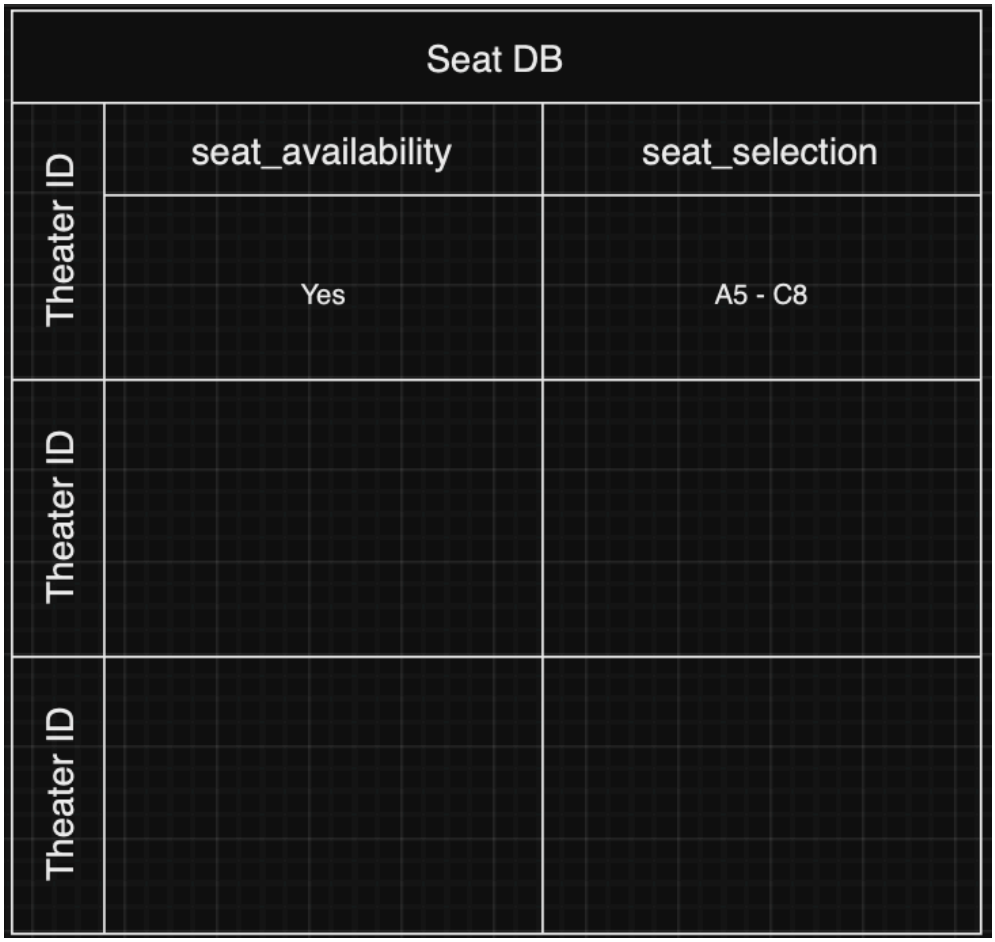
Account Management DB					
	email	username	password	payment_info	rewards
Actor 1	johnsmith@gmail.com	John	5f4dcc3b5aa765d61d8327deb882cf99	Credit/Debit	6900 points
Actor 2					
Actor 3					

Movie DB

- This DB is responsible for withholding all valuable movie information ranging from movie title to their movie duration. This DB is less likely a target for malicious hackers compared to Account Management DB, but still is a good practice to ensure an extra layer of security.
- This SQL database contains movie name, showtime, rating, genre, duration, theater ID, and MPAA rating.
- SQL database is used for this database since it provides faster categorization and filters according to the user's movie option.
- This database works closely with the user endpoint and returns movie options and availability.
- Once an available movie is available and selected, this database communicates with Seat DB to process ticketing.
- 

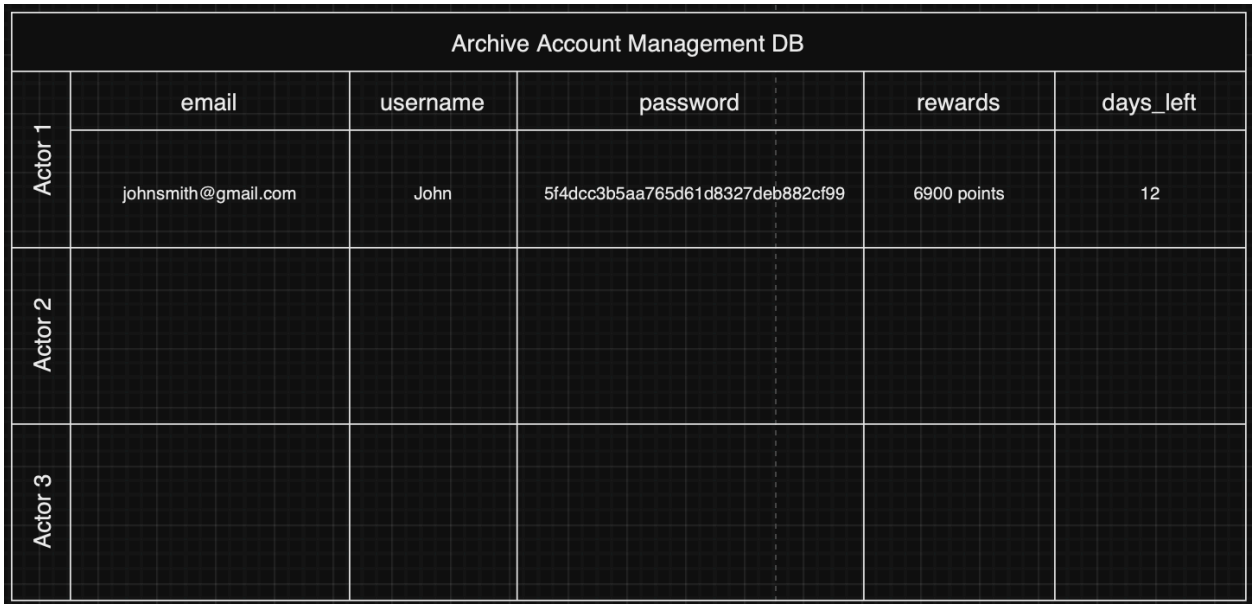
Seat DB

- This DB is responsible for withholding seat availability information ranging from A1 - F30. This DB is also less likely to be targeted by malicious hackers compared to Account Management DB since its data is less appealing. However, it may open up doors for potential hackers to gain privileged access. Therefore, it is always good practice to implement an extra layer of security.
- This no-SQL database contains unique theater ID and seat availability options.
- No-SQL database is used for this database since each seat chart has its unique seat code. Therefore, it is more compatible to use a no-SQL database to ensure a proper seat selection service.
- This database works closely with the user endpoint and the Movie DB.

- 

Archive Account Management DB

- This DB is responsible for withholding data for deleted accounts. According to the Terms and Conditions our company and the user have signed, our company withholds the data of a deleted account for up to 30 days. After that, all data related to the deleted account is permanently deleted. The purpose of this is in case the user wants to reactivate their account again. In addition, due to legal reasons, it is recommended by the government to withhold user data for up to 30 days upon deletion request.
- This no-SQL database contains almost identical data with Account Management DB except “payment_info” and “days_left” category is added.
- No-SQL database is used for this database since each user account has specific days left so no structured query is necessary.
- This database works closely with the user endpoint and all other other DB.

- 

Archive Account Management DB					
	email	username	password	rewards	days_left
Actor 1	johnsmith@gmail.com	John	5f4dcc3b5aa765d61d8327deb882cf99	6900 points	12
Actor 2					
Actor 3					