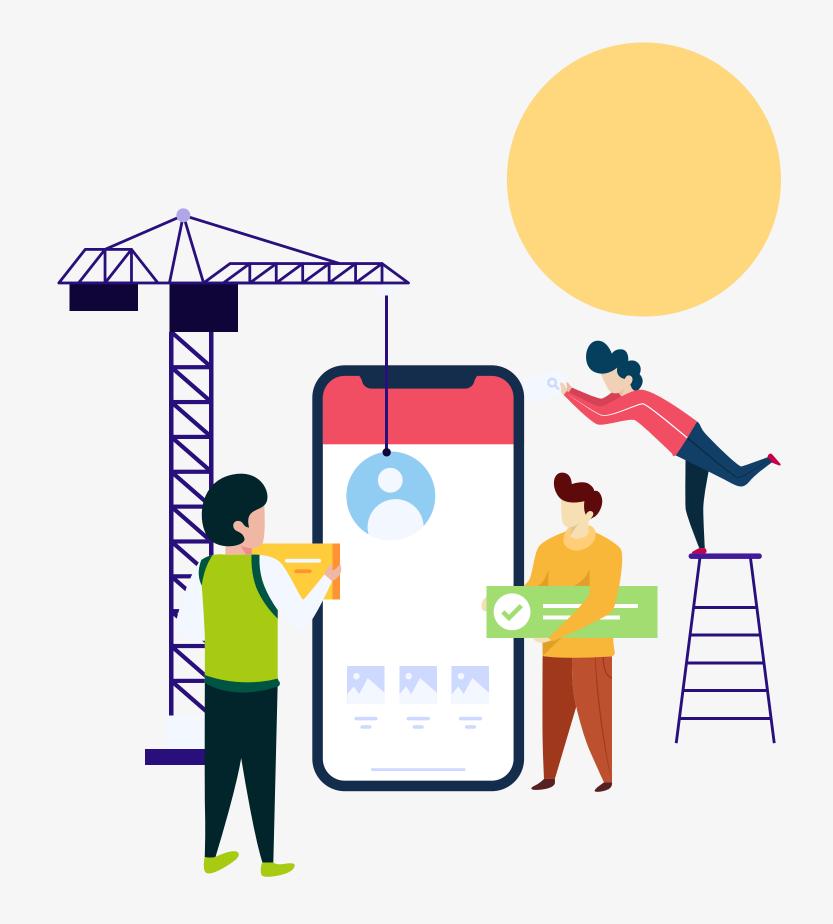
DYNAMODB

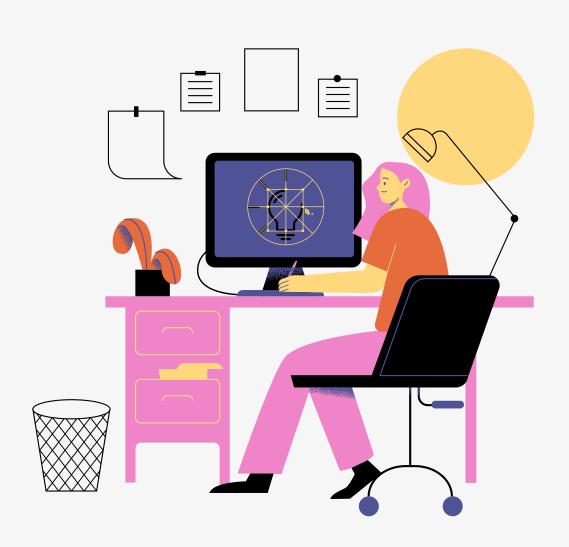
App store Database



CSCI 112 Final Project

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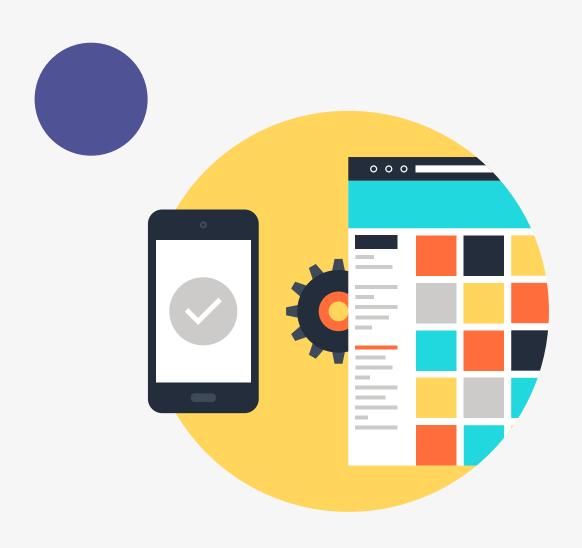
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Database description

Short overview of our DynamoDB-hosted service



What is an app store?

The App Store hosts many apps for mobile users, ranging from games, self-help, education, or other types of entertainment. The database contains many details about each app in the platform, including but not limited to categories, average rating, number of reviews, and size.

What makes this app store special?

This database makes use of DynamoDB, a managed database that makes it possible to create indexes and choose which keys to use among the many attributes of the apps. This database is created for three possible clients: the end users, app developers, and the developers behind the app store.

Entity Relationship Diagram

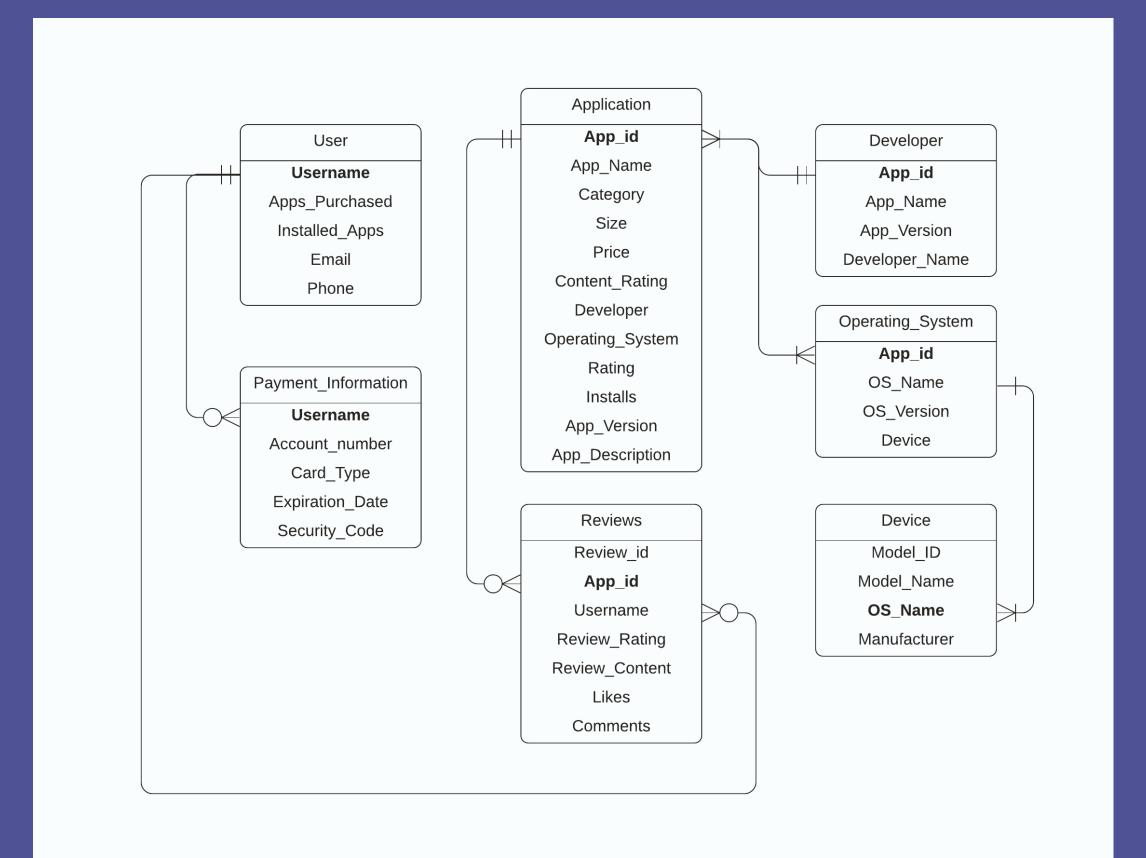


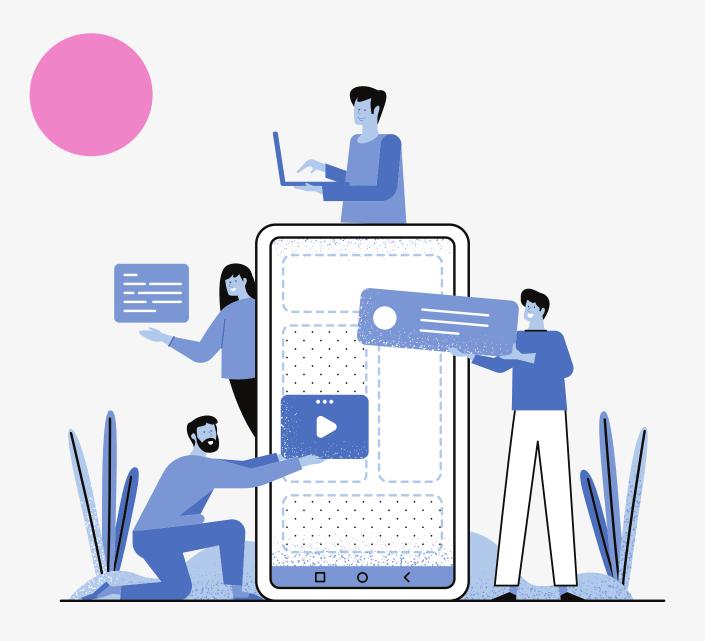
Table Schema

Primary Key											
PK	SK	Attributes									
		Apps_Purchased	Installed_Apps	Email	Phone						
	PROFILE	list	list	<email></email>	<phone></phone>						
		Account_Number	Card_Type	Expiration_Date	Security_Code						
	#PAY# <payment_method></payment_method>	<account_number></account_number>	<card_type></card_type>	<expiration_date></expiration_date>	<security_code></security_code>						
		Account_Number	Card_Type	Expiration_Date	Security_Code						
<username></username>	#PAY# <payment_method></payment_method>	<account_number></account_number>	<card_type></card_type>	<expiration_date></expiration_date>	<security_code></security_code>						
		Category	Size	Price	Content_Rating	Developer	Operating_System	Rating	Installs	App_Version	App_Description
	<app_name></app_name>	<category></category>	<size></size>	<price></price>	<content_rating></content_rating>	<developer_name></developer_name>	<os_name></os_name>	<rating></rating>	<installs></installs>	<app_version></app_version>	<app_description></app_description>
		Username	Review_Rating	Review_Content	Likes	Comments					
	#REVIEW# <review_id></review_id>	<username></username>	<review_rating></review_rating>	<review_content></review_content>	<likes></likes>	list: <comments></comments>					
		Username	Review_Rating	Review_Content	Likes	Comments					
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		Model_Name	Manufacturer								
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		Model_Name	Manufacturer								
<os_name></os_name>	#MODEL# <model_id></model_id>	<model_name></model_name>	<manufacturer></manufacturer>								

Category_Index											
Primary Key											
Category	Rating	Attributes									
		PK	SK	Size	Price	Content_Rating	Developer	Operating_System	Installs	App_Version	App_Description
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		PK	sk	Size	Price	Content_Rating	Developer	Operating_System	Installs	App_Version	App_Description
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Developer_Index											
Primary Key											
Developer In	nstalls	Attributes									
		PK	sk	Size	Price	Content_Rating	Category	Operating_System	App_Description	App_Version	Rating
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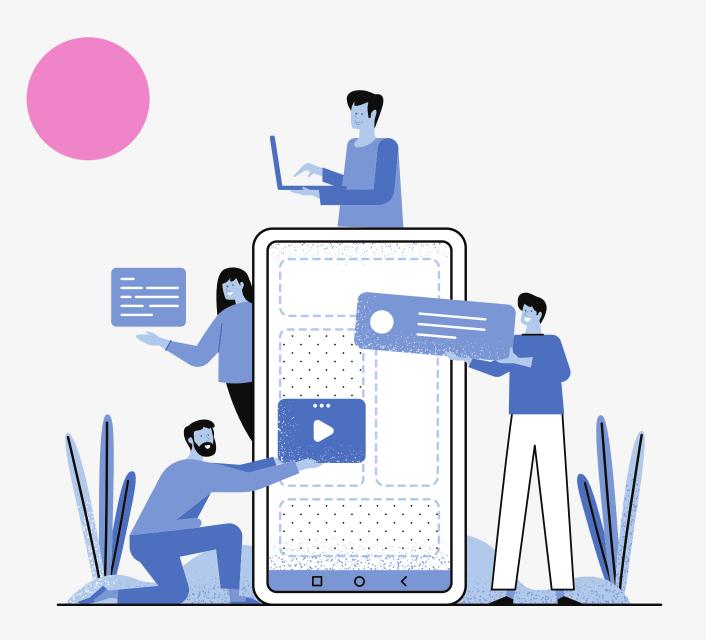
Visit: <u>AppstoreTableSchema</u>

Access Patterns



- App store developers want to determine the top 10 apps per category.
- App store developers want to know the most popular card type used by users
- O8 An app developer wants to research more about the most installed apps
- O9 An app developer wants to update their app's description
- A phone manufacturer wants to know how many apps and devices are compatible with their OS

Access Patterns



- A user wants to know what apps are less than a specific size in a certain category
- O4 A user wants to leave reviews for an app
- O5 A user wants to add installed or purchased apps
- A user wants to comment on a review
- O7 A user wants to add a new payment method to their account

References and Materials

Table Schema Source Code Database Specifications

```
https://www.w3schools.com/python/ref_list_append.asp
https://stackoverflow.com/questions/26881797/python-writing-a-csv-to-a-list-of-dictionaries-with-headers-as-keys-and-rows-as
https://stackoverflow.com/questions/63026648/errormessage-class-decimal-inexact-class-decimal-rounded-while
https://pandas.pydata.org/docs/reference/api/pandas.read_csv.html
https://towardsdatascience.com/converting-data-to-a-numeric-type-in-pandas-db9415caab0b
https://stackoverflow.com/questions/316238/python-float-to-decimal-conversion
https://blog.ruanbekker.com/blog/2019/02/05/convert-float-to-decimal-data-types-for-boto3-dynamodb-using-python/
https://stackoverflow.com/questions/36506546/dynamodb-key-element-does-not-match-the-schema/36507469
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Expressions.Attributes.html?
fbclid=IwAR3sA-G9xJ96fk56xq6ccWQll2hk26HgRYSuI8GApYU4pwD6ws_NFt8AtuY
```

References and Materials

```
https://www.alexdebrie.com/posts/dynamodb-filter-expressions/
https://www.bmc.com/blogs/dynamodb-advanced-queries/
http://www.databaseanswers.org/data_models/cell_mobile_apps_stores/index.htm
https://stackoverflow.com/questions/18198735/database-schema-guidance-for-an-app-store
https://stackoverflow.com/questions/27316643/how-to-get-item-count-from-dynamodb
https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_Scan.html#DDB-Scan-request-
AttributesToGet
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Query.html#Query.FilterExpression
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Query.html#FilteringResults
https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_Query.html#DDB-Query-request-
ScanIndexForward
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Expressions.UpdateExpressions.html#E
xpressions.UpdateExpressions.SET.UpdatingListElements
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GettingStarted.Python.Summary.html
https://stackoverflow.com/questions/31288085/how-to-append-a-value-to-list-attribute-on-aws-dynamodb
https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_UpdateItem.html#DDB-UpdateItem-
request-ReturnValues
```

References and Materials

https://stackoverflow.com/questions/28425117/dynamodbnumbererror-on-trying-to-insert-floating-point-number-using-python-boto
https://github.com/boto/boto3/issues/665
https://docs.aws.amazon.com/es_es/amazondynamodb/latest/APIReference/API_KeySchemaElement.html
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Expressions.UpdateExpressions.html#E
xpressions.UpdateExpressions.SET.AddingListElements
https://docs.aws.amazon.com/amazondynamodb/latest/APIReference/API_Projection.html
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GSI.html
https://www.fernandomc.com/posts/ten-examples-of-getting-data-from-dynamodb-with-python-and-boto3/https://stackoverflow.com/questions/60889560/dynamo-db-query-not-returning-expected-results-when-using-nested-collections
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GettingStarted.Python.04.html
https://stackoverflow.com/questions/2387697/best-way-to-convert-csv-data-to-dict



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