Homework 5

System Analysis and Design

User

A class that represents each individual user of the app that will access the journal, including the profile of each user.

Journal

Journal class represents a journal that the user has created. The main properties of the journal are its title, body text and the images associated with that specific journal. Journal class will interact with the User, SmartPrompt and the Database class.

Database

The database stores each journal and user.
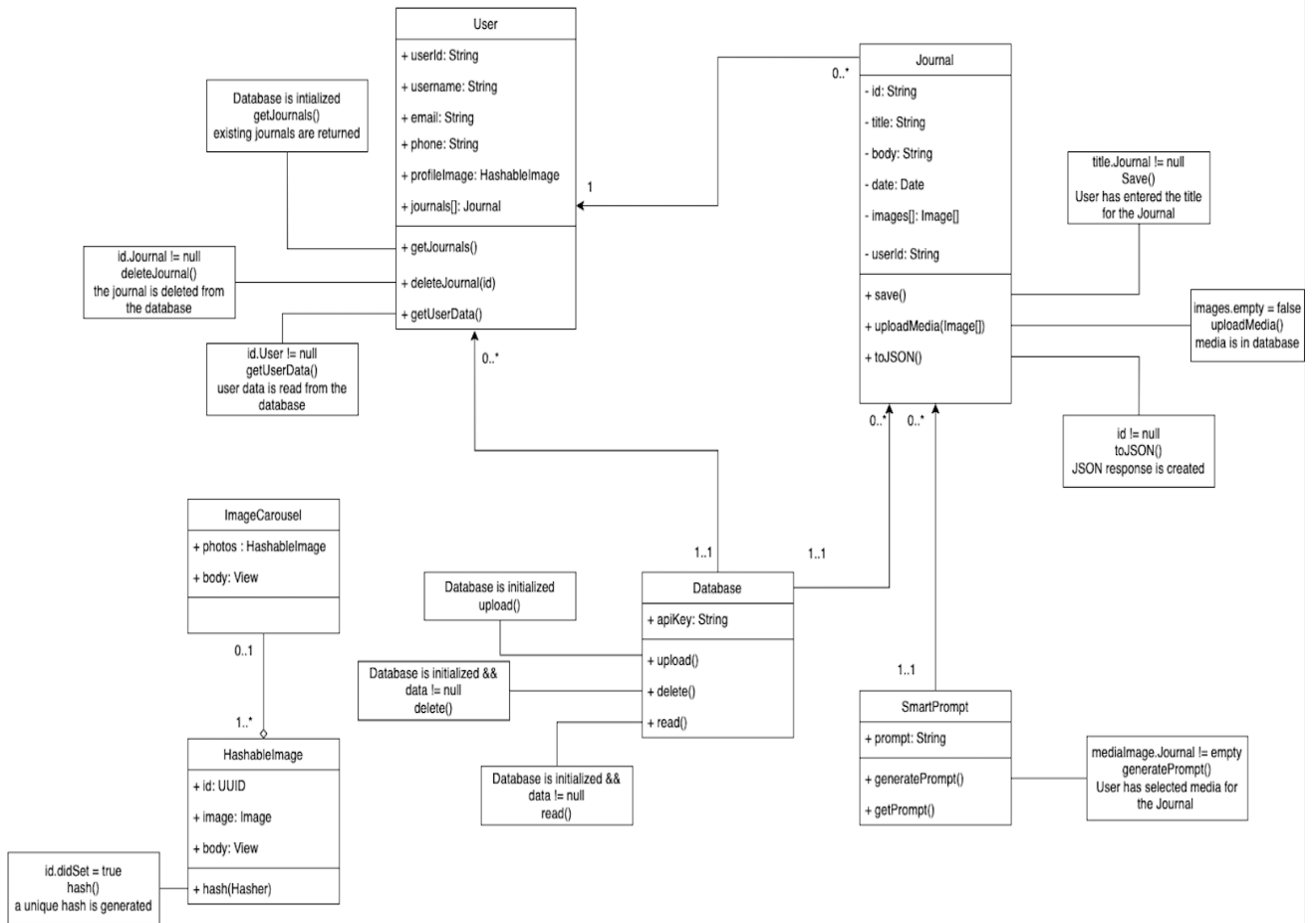
HashableImage

An image with a unique identifier.

ImageCarousel

A visual representation of HashableImages. It provides an interface for the user to swipe between images.

SmartPrompt

SmartPrompt class handles the generation of smart prompts associated with a journal. SmartPrompts will be generated based on the image that the user uploads.

CLASS DIAGRAM

User

+ userId: String

+ username: String

+ email: String

+ phone: String

+ profileImage: HashableImage

+ journals[]: Journal

+ getJournals()

+ deleteJournal(id)

+ getUserData()

Database is intialized
getJournals()
existing journals are returned

id.Journal != null
deleteJournal()
the journal is deleted from
the database

id.User != null
getUserData()
user data is read from the
database

Journal

- id: String

- title: String

- body: String

- date: Date

- images[]: Image[]

- userId: String

+ save()

+ uploadMedia(Image[])

+ toJSON()

title.Journal != null
Save()
User has entered the title
for the Journal

images.empty = false
uploadMedia()
media is in database

id != null
toJSON()
JSON response is created

ImageCarousel

+ photos : HashableImage

+ body: View

Database

+ apiKey: String

+ upload()

+ delete()

+ read()

Database is initialized
upload()

Database is initialized &&
data != null
delete()

Database is initialized &&
data != null
read()

SmartPrompt

+ prompt: String

+ generatePrompt()

+ getPrompt()

medialmage.Journal != empty
generatePrompt()
User has selected media for
the Journal

HashableImage

+ id: UUID

+ image: Image

+ body: View

+ hash(Hasher)

id.didSet = true
hash()
a unique hash is generated

0..*   1   0..*   1..1   1..1   0..*   0..*   1..1   0..1   1..*

OBJECT DIAGRAM

User

+ userId: UUID = 550e8400-e29b-41d4-a716

+ username: String = "bob"

+ email: String = "bob@gmail.com"

+ phone: String = "1234567890"

+ profileImage: HashableImage = pfp

+ journals[]: Journal = [journal1]

+ getJournals()

+ deleteJournal(id)

+ getUserData()

Journal

- id: String = abc123

- title: String = "My Journal"

- body: String = "this is my journal"

- date: String = "11/04/2023"

- images[]: HashableImage[] = [acb, abc]

- userId: UUID = 550e8400-e29b-41d4-a716

+ save()

+ uploadMedia(Image[])

+ toJSON()

0..*

1

0..*

ImageCarousel

+ photos : HashableImage[] = [pfp]

+ body: View = view

Database

+ apiKey: String = "abc123"

+ upload()

+ delete()

+ read()

SmartPrompt

+ prompt: String = "abc123"

+ generatePrompt()

+ getPrompt()

HashableImage

+ id: UUID = 234234-124sd

+ image: Image = pfp

+ body: View = view

+ hash(Hasher)

0..1

1..*

1..1

1..1

0..*

0..*

1..1