THE COOKIE CLUB – NEKO GAINS SYSTEM DESIGN DOCUMENT

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CLASSES – CRC CARDS

Class name: User

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Stores the login information: username, password
- Stores physical information of the user: height, weight
- Stores a dictionary of Exercise Plans
- Stores amount of money in game the user has
- Stores the user's pet
- Will use the user's information to calculate BMI

Collaborators:

- Pet
- Exercise
- Login Activity
- Registration

Class name: Pet

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Stores the name of the pet
- Stores the hunger of the pet
- All the interaction methods of the pet: feeding, petting

Collaborators:

- User

Class name: Exercise

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Stores the name of the exercise and general information
- Stores the number of calories burned in one rep and recommended reps

Collaborators:

- User

Class name: DatabaseHelper

Parent class: SQLiteOpenHelper

Subclasses: N/A

Responsibilities:

- Create database table for workouts
- Populate workout table available workouts along with their calorie burn

Collaborators: N/A

Class name: MainActivity

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Runs the main page and other pages

Collaborators:

- Login
- HomeFrag
- PreworkoutFrag
- ProgressFrag
- SettingFrag
- StoreFrag

Class name: HomeFrag

Parent class: Fragment

Subclasses: N/A

Responsibilities:

- Runs the home page

Collaborators:

- MainActivity

Class name: PreworkoutFrag

Parent class: Fragment

Subclasses: N/A

Responsibilities:

- Runs the pre-workout page

Collaborators:

- MainActivity

Class name: ProgressFrag

Parent class: Fragment

Subclasses: N/A

Responsibilities:

- Runs the progress page

Collaborators:

- MainActivity

Class name: SettingFrag

Parent class: Fragment

Subclasses: N/A

Responsibilities:

- Runs the setting page

Collaborators:

- MainActivity

Class name: StoreFrag

Parent class: Fragment

Subclasses: N/A

Responsibilities:

- Runs the store page

Collaborators:

- MainActivity

Class name: LoginActivity

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Gets a user class from the database

Collaborators:

- User
- MainActivity

Class name: RegistrationActivity

Parent class: N/A

Subclasses: N/A

Responsibilities:

- Creates a new user and stores it in a database

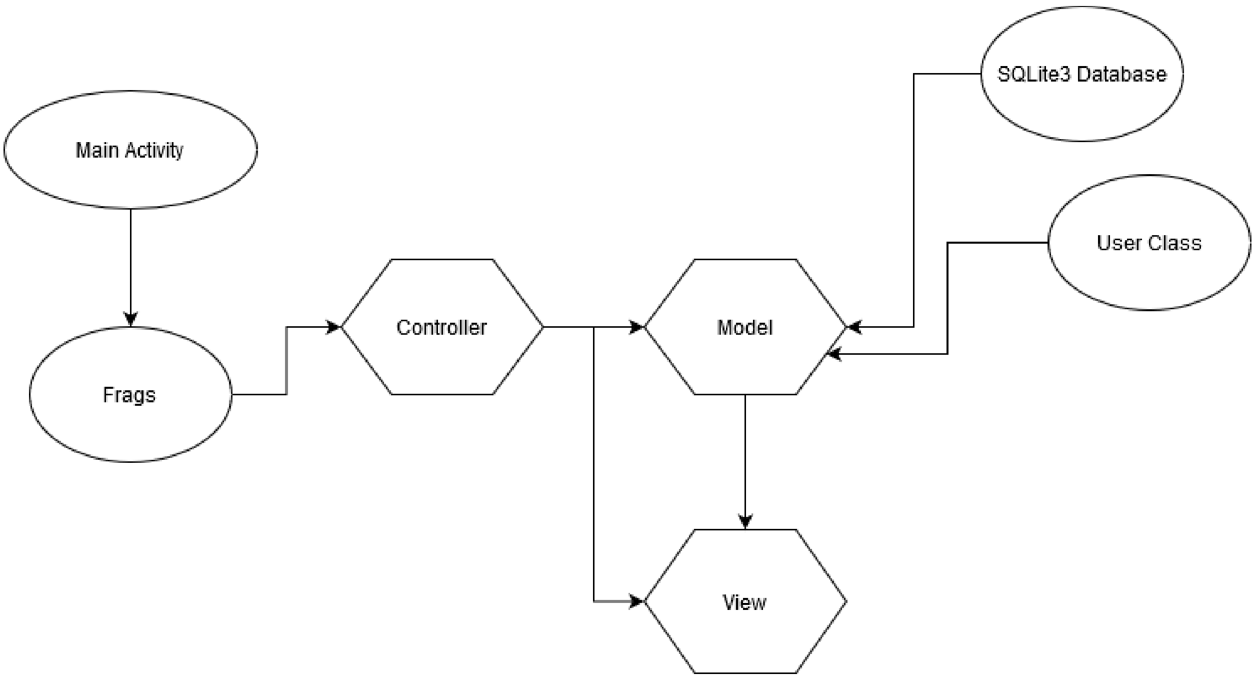
Collaborators:

- User

SYSTEM INTERACTION WITH ENVIRONMENT

Our app is strictly designed to be used in an Android environment, so we expect android touch devices such as phones and tablets to run our app. We assume that the version of android that will be running our app to be Android Q. The app will be using SQLite3 database which will not be required to be ran externally but instead will be stored internally as a .db document. For the purposes of logging in and cloud file tracking, our app depends on Google Play Services. As this is an android studio project the app will be written and compiled using Java and Java compiling.

SYSTEM ARCHITECTURE



The architecture of our app will be using the MVC architectural pattern. Within the activities and frags contain the choosing of workouts and enacting workouts. Actions such as completing a workout will have the controller update the model user class and update the workout database which are required for the workout planning. The view comprises of the xml elements of the activities that will be updated accordingly based off the model and controller. For example, the stats of the player will be updated on the view as the player progresses.

SYSTEM DECOMPOSITION

There are various multiple errors that our app will be required to handle. We require user input at multiple points during the use of our app including the filling out of the questionnaire and the naming of the virtual pet. We will be handling input through regular expressions and deny input that doesn't match. If there is little to no internet access, the app will allow basic use of the app without login requirements. The app will not be able to acquire profile information without information but will allow creation of workout plans. We will have error catchers for any exemptions that happen and upon exception, save the state of the app and important information and close the app with a relevant error message.