

Assignment App Stores

To get a little more control over the superpowers Apple and Google, you have been asked to write software. This software is going to be used for an investigation into the companies that is yet to be conducted. Specifically, the research is about the application stores of both giants.

In the application it should be possible to register apps. The name and price of an app will be tracked. It also records whether an app contains violence and/or nudity. An app containing violence is only available for 16 years and older. For nudity, it is for 18 years and older.

In addition, there are the app stores: Apple App Store and the Google Play Store. An app store uses a particular currency. There is a choice between of euros or dollars. An app store must have the ability to upload (add) an app. There is an exception for the Apple App Store: apps that contain nudity may not be uploaded. In addition, the App Store cedes 30% of app revenue to the developer.

Eventually, purchases must also be tracked from different users. A user's name, an email address and date of birth are tracked. The email address must be validated. If it is incorrect, null must be entered. This validation should be done in a separate class without instantiating it. Purchases are tracked in the app store, not in the user itself. A user can purchase multiple apps. Obviously, the user must meet the conditions for him to download an app. If he does not meet them, a `DownloadNotAllowedException` must be thrown.

Ultimately, the research group wants to be able to calculate the total revenue of an app store. Both for all apps and one specific selected app.

✍ Implement the following

- Make a Use Case diagram based on the text above.
- Make a class diagram based on the text above.
- Write the application based on your class diagram and the text above.