 Data Mgt & Database Design

INFO 6210 Summer Full 2019

Database Design & Initial ERD

1. Business Problems

In order to optimize the Google Play Store Apps operation strategy in the game and software market, we need to analyze the current data completely. This goal is supported by the detailed data of all kinds of apps, which collected from various different and real users.

We can meet the most of the users’ need by summarizing the features of popular apps. These features show what is key point users care, and the degree it matters. So that we can adjust our strategy in these features and predict the development of Store.

1. Entities design
2. **Basic Properties**
3. **App :** Application details, contains 10 variables such as rating to show how well this app is evaluated between users; size to show how much room this app will take; version to show the current version or previous version. By analyzing these variables, we can describe the app’s usage better, and attract more users to download this app. One App entity can relate to many AppBenefit entities, or many AppDetails entities. Many App entities can relate to Android entity or Installs entity because we count Installs entity by set the level to 1000, 5000, 10000 and so on.
4. **Category :** Category entity shows what type of this App belongs to, such as art, books or even the sports, so one Category entity can relate to many AppDetail entities.
5. **Genres :** An App can belong to multiple genres (other than its main category) and has a detailed classification. For example, when the type of the application is GAME, its genre may be an action which helps the user make a choice. We can also analyze different characteristics of the genre, so one genre can involve many AppDetail entities.
6. **Android :** This entity contains the minimum requirement of the Android version to install such App in users’ mobile phone, which is not absolute one to one relationship, so one Android entity can relate to many App entities.
7. **AppDetail :** Basic properties related to the App Store classification, such as Category, Developer and Language entity that we mentioned earlier. In this case, we can say many AppDetail entities are related to one Developer entity, one Category entity and one Language entity separately.
8. **Language :** This entity shows which language is supported by App. For each App, it may support more than one language to suit different users, so one Language entity can relate to many AppDetail entities.
9. **Developer :** The Developer entity shows the developer name of this app, one developer can have many apps in store, so it relates to many AppDetail entities.
10. **User Feedback**
11. **UserReviews :** It shows the number of users who review this App(as when scraped), but we should know that the count of UserReviews may be much more greater than Installs as not all the user decide to download this App, so we can say many UserReviews entities relate to one Sentiment entity.
12. **Sentiment :** This entity is used to judging the reflection of the users, whether they like or not. By analyzing this entity, we can summarize the overall sentiment of one App, so one Sentiment entity relates to many UserReviews entities.
13. **Installs :** Almost same as the UserReviews entity, shows the number of user downloads or installs for one App, but different as it may only contains multiple levels, which will be one Install entity level relates to many App entities.
14. **Market Factor**
15. **Type :** This entity describes whether users need to pay or not when they download this App, in other words, the payment type for this App. As it only contains “Paid” or “Free”, one Type entity relates to many AppBenefit entities.
16. **InAppPurchase :** This entity describes whether users need to pay or not when they are using them, and even show the exactly amount for different functions, that’s the reason why it may be one to one relationship, for one InAppPurchase entity relates to one AppBenefit entity.
17. **AppBenefit :** Contains both Type and InAppPurchase entity, used to describe the benefit of each App when they are downloaded by users. One AppBenefit entity relates to one InAppPurchase entity, and many AppBenefit entities relate to one Type entity.
18. Initial ERD

图片包含 屏幕截图

描述已自动生成