

Capston Project 2

Ed-Tech Apps Ratings and How to Improve

CONTEXT

Educational tech apps are committed to the development of a new way of generating and delivering knowledge to motivate learning. They have been widely used in a variety of ways, including online learning, interactive whiteboards, and other forms of digital learning. EdTech can also be used to create virtual classrooms, where students can interact with each other and their teachers in real time. EdTech is becoming increasingly popular in schools and universities, as it allows for more personalized instruction and can be used to help students with a variety of learning styles.

EdTech is arguably to have the following benefits: enhance parent/caregiver communication, maintain updated information, motivate kids learning, individualize learning, increase test scores, improve comfort and skill with technology, make progression private. For these reasons, efforts should be made to integrate m-learning into development of more effective and efficient educational apps, to complement traditional learning channels.

Due to the small number of available educational apps, we here adopt transferring learning. We will build our predictive model by first on all apps available in Google App store. Starting with the first machine learned model we then move onto educational apps specifically, to further machine train and refine the model to our educational app data.

CRITERIA FOR SUCCESS

In the scope of this machine learning capstone project, we would like to achieve the following objectives:

- • Acquire good quality data from available open sources & conduct Feature engineering,
- • Provide a predictive model through machine learning that can predict app ratings with accuracy of 80% or above.
- • come up business recommendations for developers to improve app development.

SCOPE OF STUDY

- • We will look into Edtech data worldwide to find out the distributions of usage of educational apps on different measures. Political and demographic factors will be taken into consideration.
- • By slicing the reviews/comments, we would like to find out that overall, what users value the most by using the apps vs traditional learning styles (classrooms, books)? For each category such as professional training app, language learning, what do users value the most, by gender, by age, by region?
- • We would like to see if educational apps truly offer the claimed benefits, and if the disadvantages (such as not learning “old school” skills, less in-person interaction,

overstimulating and distracting, widening the existing social-economic gaps and being sedentary and singular) have been issues that preventing apps' adoption;

- • Why some apps get more reviews but not others. What are the differences that caused the discrepancies? Does an app's summary/description help increase membership/encourage signups? Does a free trial offer matters to singup/membership? Do users tend to give reviews during trial periods or after becoming members? Do apps provide interfaces of difference languages attract more users to signup? What can app developers do about to get users to write review to help them improve?

CONSTRAINTS

- • Our target feature ratings/reviews are sentimental, subjective and are difficult to measure. Often the measurements/ratings do not really reflect the quality of an app. For example, reviews are more often then not given by unsatisfied/unhappy users. After all, we all like to speak out when there are problems. In addition, a person's feeling towards an app's experience varies from time to time, a rating at a particular day/time might not reflect the person's true feeling about the app.
- • The data acquired over open source is out-of-date. Over time, new apps with new features have been developed. Therefore, our machine learned model on historical data with outdated features is likely missing out new potentially informative and important features and might not work very well with current apps.
- • More professional knowledge on development of educational apps maybe needed to combine with machine learning algorithms to build a practical, robust and yet good-qualified predictive model.

DATA SOURCES

- • <https://www.kaggle.com/datasets/lava18/google-play-store-apps>
- • <https://www.kaggle.com/datasets/akshatsharma0610/edtech-dataset>