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Competitive Motor Bike Competitive Evalution and Popularity Prediction of Motorcycle Sharing Apps The use of Multi Source Facts

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ABSTRACT

In latest years, motorbike-sharing structures had been widely deployed in many massive towns, which offer a cost-effective andhealthy way of life. With the prevalence of motorbike-sharing systems, quite a few companies be part of the motorbike-sharing market, main to increasingly morefierce competition. To be competitive, motorbike-sharing corporations and app developers want to make strategic choices and predict therecognition of motorcycle-sharing apps. however, existing works in most cases attention on predicting the recognition of a single app, the recognitioncontest amongst unique apps has not been explored but. on this paper, we intention to forecast the recognition contest between Mobike andOfo, two most popular bike-sharing apps in China. We broaden CompetitiveBike, a device to expect the popularity contest amongstbike-sharing apps leveraging multi-supply information. We extract novel styles of features: coarse-grained and satisfactory-grained competitivecapabilities, and utilize Random woodland model to forecast the destiny competitiveness. further, we view cell apps opposition as alengthy-term event and generate the event storyline to enrich our aggressive evaluation. We gather information approximately motorcycle-sharing apps andtwo food ordering & transport apps from 11 app stores and Sina Weibo, put into effect sizable experimental studies, and the effectsexhibit the effectiveness and generality of our approach.

Key Words:Bike-sharing app, mobile app, popularity prediction, competitive analysis.

1. INTRODUCTION

IN recent years, shared transportation has grown rather, which provides us a cost-effective and wholesome life-style. among the numerous types of shared transportation, public bike-sharing structures [1], [2], [3] had been widely deployed in lots of metropolitan areas which include big apple town inside the US and Beijing in China. a motorbike-sharing machine gives brief-time period bike condominium provider with many bicycle stations disbursed in a city [4]. A consumer can rent a motorbike at a nearby bike station, and return it at another bike station close to his/her vacation spot. the worldwide incidence of bikesharing systems has inspired plenty of energetic studies, addressing exciting subjects together with bike call for prediction [5], [6], [7],

[8], bike rebalancing optimization [4], [9] and motorbike lanes making plans [10].

Extra recently, station-much less bicycle-sharing structures have become the mainstream in many large cities in China inclusive of Beijing and Shanghai. Mobike1 and Ofo2 are two most famous station-less bicycle-sharing structures. in contrast to conventional public motorcycle-sharing structures, station-much less bike sharing structures purpose to resolve "the remaining one mile" issue for customers. the use of the Mobike/Ofo mobile app, customers can search and unencumber close by motorcycles from Mobike/Ofo. when customers arrive at their locations, they do not must return the motorcycles to the targeted motorbike station. as an alternative, they could park the bicycles at a location extra convenient for them. consequently, it is less complicated for customers to rent and go back bikes than conventional motorbike-sharing structures.

As motorbike-sharing apps end up an increasing number of popular, plenty of organizations join the marketplace, main to fierce competition. To thrive in this aggressive market, it is essential for bikesharing organizations and app builders to apprehend their competitors, after which make strategic decisions [11] for mobile app improvement and evolution [12], [13], [14]. consequently, it is substantial and vital to are expecting and examine the destiny popularity of different motorcycle-sharing apps.Decisionsfor mobile app development and evolution .Therefore, it is significant and necessary to predict and compare the future popularity of different bike-sharing apps.

2. LITERATURE SURVEY

App popularity Prediction these days, a sizeable effort has been spent on predicting reputation of mobile app [15], [17], [16], [18]. Zhu et al. [15] proposed thepopularity-based totally Hidden Markov model (PHMM) to version the popularity statistics of cellular apps. Wang et al. [16] proposed a hierarchical version to forecast the app downloads. Malmi [17] located that there existed connection among app reputation and the past popularity of other apps from the identical writer. Finkelstein et al. [18] located that there may be a robust correlation among score and the downloads. Our work differs from and potentially outperforms the previous work in numerous factors. First, we attention on the trouble of competitive evaluation and recognition prediction of motorcycle-sharing apps, rather than the prediction of a unmarried app. 2nd, we predict the popularity contest leveraging multi-source information (i.e., app save facts and microblogging statistics) which are frequently complementary and might reflect cellular app reputation contest from one of a kind views.

Competitive analysis competitive analysis includes the early identity of ability risks and possibilities to assist managers making strategic selections for an company [10]. Jin et al. [19] decided on subjective sentences from reviews which discuss not unusual functions of competing merchandise. He et al. [20] analyzed the text on the social media of the three largest pizza chains, and the outcomes found out the commercial enterprise fee of evaluating social media content material. Maksim et al. [21] proposed a generative version for comparative sentences, mutually modeling two stages of comparative relations: the level of sentences and the level of entity pairs. Zhang et al. [22] proposed to experiment opinions to update a product contrast network.

3. PROBLEM STATEMENT

The problem of competitive analysis and popularity predictionover bike-sharing apps can be stated as follows: giventhe multi-source data (i.e. app store data and microblogging
data) about Mobike and Ofo, we want to predict which appwill be more popular in the future.

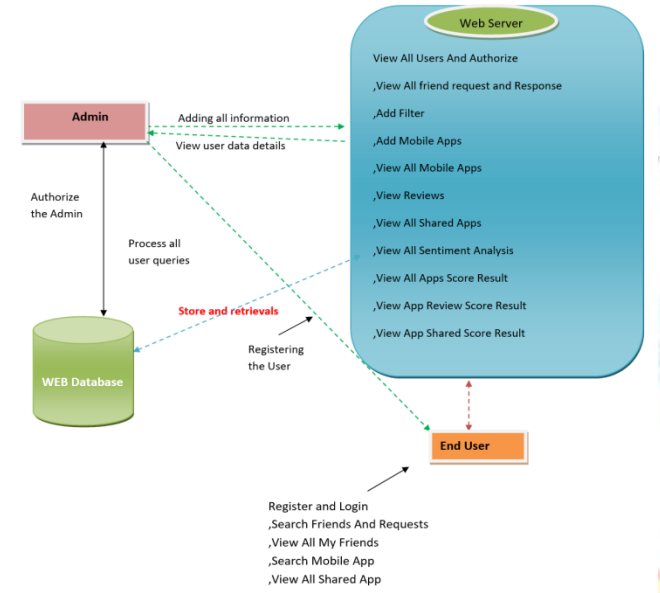
Definition 1. Popularity Contest. Inspired by [34], the popularityof Mobike (or Ofo) can be measured by the number of the downloads, and the popularity contest (PC) betweenMobike and Ofo.

Definition 2. Competitive Relationship. The competitiverelationship (CR) between Mobike and Ofo can be oneof the two possbilities: 1) Mobike is more popular than
Ofo, or 2) Ofo is more popular than Mobike. Accordingto Formula (1), when PC > 0, it indicates that Mobike ismore popular than Ofo; otherwise, Ofo is more popular.

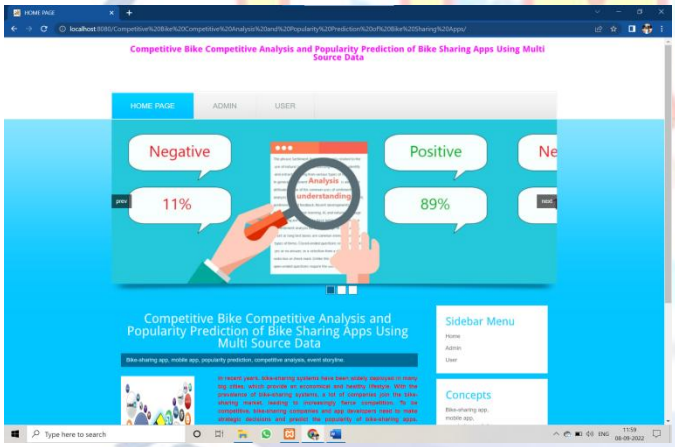
Definition 3. Competitive Intensity. The competitive intensity(CI) between Mobike and Ofo is the absolute

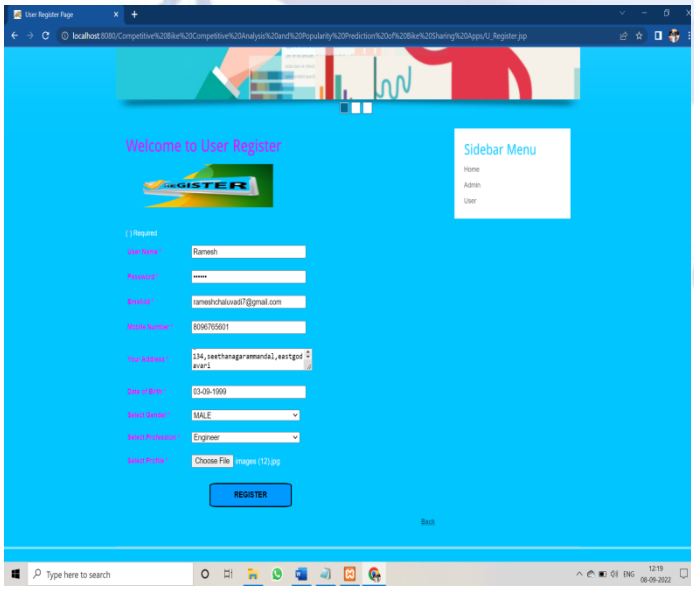
valueof popularity contest (PC). The smaller the value, the higher the competitive intensity.

4. ARCHITECTURE



5. RESULTS





6. CONCLUSION

We focus on the hassle of aggressive evaluation and recognition prediction over Mobike and Ofo. We suggest competitive motorbike to are expecting the popularity contest between Mobike and Ofo leveraging app save facts and microblogging records. specially, we first extract features from one of a kind perspectives inclusive of the inherent descriptive facts of apps, customers' sentiment, and comparative reviews. With this information,we in addition extract two sets of novel capabilities:coarse-grained and exceptional-grained aggressive functions. in the end, we generate the event storyline to offer competitive evaluationand present the popularity contest. Weacquire records approximately two motorbike-sharing apps and food ordering & shipping apps from 11 cellular app stores and Sina Weibo, put in force vast experimental research, and the outcomes reveal the effectiveness and generality of our technique.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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