AppBundle (Team 8)

Vision:

Mobile phones have become an integral part of our life. It wouldn't be an understatement to claim that more than 90% of the population owns mobile phones today. With increase in technology and the demand for automation, mobile phones have replaced computers and laptops, in fact they can be claimed to be minicomputers itself. People are using mobile phones for calling, business, entertainment, gaming, etc. In order to do all these things on a single phone, users face the problem of insufficient phone storage capacity. A mobile phone faces multiple issues due to less storage capacity and a growing need for multiple applications. Our product is a new application where all the other applications are preinstalled in our cloud servers, unlike the existing solutions that store just the app data on Google Drive, Amazon S3, IDrive, Dropbox, etc. None of these solve the problem of storing the app itself in order to reduce the phone storage. By storing the application's APK on the cloud server, the need for local storage decreases on a large scale thus avoiding storage issues and getting efficient service from the device. Customers can readily use preinstalled apps on cloud servers through their mobile phones and store data there which will allow them to access it easily in less time with good internet connectivity.

Motivation:

Everyone buys mobile phones with a sufficient amount of disk space averaging about 16 GB which seems more than enough for a mobile device. However, recent observations have shown that the underlying operating system takes up a huge amount of space which leaves the user with fewer options to play with memory. With the advancement of technology, the operating systems now consume comparatively less memory, but it is still not efficient enough. This leaves us relying on external sources like SD cards or hard disks to store our data which is a hassle. Also, it's not convenient to use multiple SD cards. The picture quality of any smartphone has developed far beyond imagination in recent years and they eventually take up substantial space. Auto-update, unmanaged apps, undeleted files, etc are common issues faced by everyone today which ultimately results in one major issue: insufficient memory. This is the major motivation behind developing this application which can help in avoiding all these problems for the user by not only saving the data on our cloud server but also saving the application's APK on the cloud. The software will stream data and code resources to an app from the cloud server when necessary, allowing the app to conserve memory on the phone. This technique works especially for resource-hungry apps related to gaming, video, or graphics, making it more useful for the users. The concept of on-

demand service will be implemented which will give the users a sense that the application is stored natively on the device and not being called from some external source.

Use Cases:

Use Case 1:

A staff of Mobile Application Development Companies wants to use AppBundle to try its cloud service to share files with others:

1) She creates an account on AppBundle.
2) Enters preliminary information about herself.
3) Clicks the ‘More’ icon next to the selected folder name.
4) Clicks the ‘Add People’ button.
5) Enters the email address of the Shared Object or Online Forum Group.
6) Clicks Send. The system sends an e-mail to the Shared object.

Use Case 2:

A college student wants to free the memory space on her phone and decides to upload some files in the cloud:

1) She creates an account on AppBundle
2) Enters preliminary information about herself
3) Clicks the ‘Add’ button to see the options: upload images/videos/files, create new folders.
4) Selects the files she wants to upload.
5) Clicks the ‘Home’ button and then the page shows the successfully uploaded files.
6) Selects the files she wants to download.
7) Clicks the ‘Transmission’ button and then selects the Download List to see the files she just downloaded successfully

Use Case 3:

A mobile gamer wishes to have more cloud storage to store files:

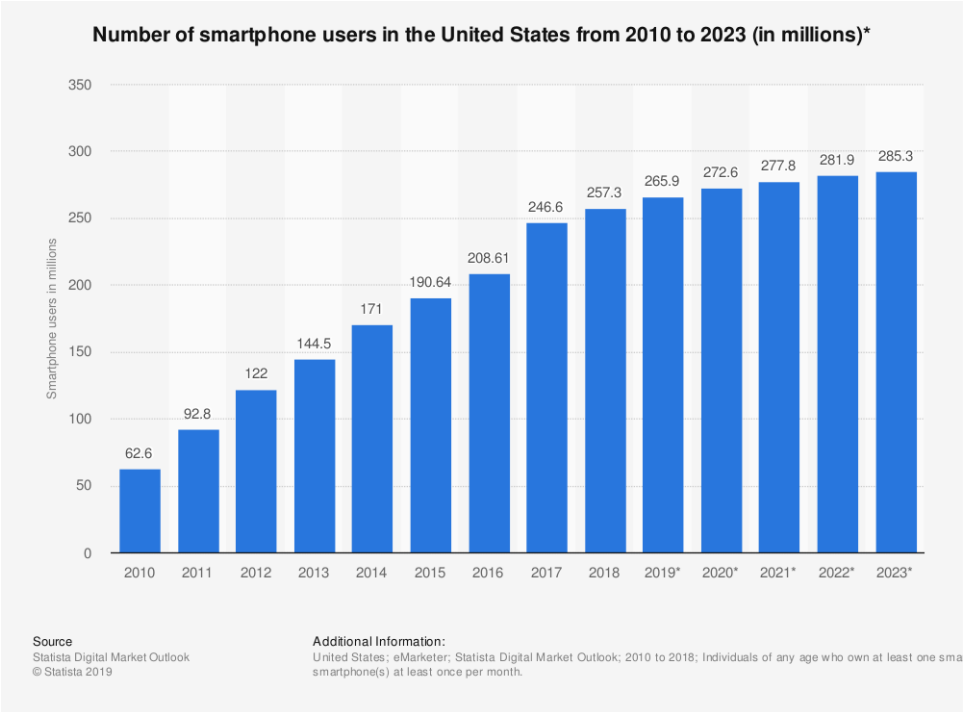
1) She logs into her account on AppBundle.
2) Clicks on ‘My Profile’ to update the profile.
3) Clicks ‘Manage Storage’ and then tap ‘Buy More Storage’ or ‘Change Storage Plan’.
4) Choose a plan, then click ‘Next’.
5) Reads confirmation information, then clicks ‘Buy’,
6) Chooses one payment method and completes payment.

Market Size:

In the United States, the most popular smartphone operating systems/platforms are Google's Android and Apple's IOS. The average frequency of using an app per day according to mobile device users in the United States as of April 2018: U.S. adults aged 35 to 54 years accessed mobile apps 7.7 times per day. The national average daily mobile app access rate was 8.3 times per day. The most frequently used group is millennials, aged 18 to 34. The second largest group is teenagers, aged 13 to 17.

The statistics provide the percentage of U.S. mobile device users who downloaded apps at least once a month as of April 2018, broken down by age. During the survey, 74% of millennial users downloaded apps to their mobile devices every month. Therefore, the target users are the group with high coverage of mobile phone use: the young and middle-aged mobile phone users mentioned above.

The mobile application market is growing at an unprecedented rate. According to App Annie, a leading provider of global App market data, the number of apps downloaded globally reached 194B in 2018, up 35 percent from 2017. In addition, the global app store consumer spending and app market grew by 75% since 2016.Scale to $101B. However, not only did the number and cost of uploads increase, but the average application time also increased. By 2020, smartphone users in countries such as the US or Canada will spend about three hours a day on mobile apps.



Caveats/ Risks/ Key Dependencies:

Cost Concern: Gaining a good understanding of our internal cloud service costs to deliver a premium service to our customers is important because by charging high for services will lead to a loss in the number of customers. This affects our market share and profitability.

Security Risk: Cloud security threats are constantly evolving and becoming more and more sophisticated. As AppBundle runs on cloud server it is very important to protect customer app data, records, and sensitive information and avoid disclosing it to any third party without customer approval or data loss. The following classification shows the tags of cloud security risk.

Identifying and Maintaining key APIs: AppBundle depends on specialized functionalities of third-party applications, typically accessed via APIs. They are hiding in plain view a complex set of dependencies. Some of these external services are important for small but important portions of functionality. These services may impact the customer experience and revenue generation. Some of the APIs included are as follows:

- User authentication is accomplished with Single Sign-On APIs and services to detect fraud or abuse.
- Pricing and Merchandising require the integration of many backend applications to show accurate prices to the customers.

- Supply chain and logistics APIs to ensure shipping is fulfilled.
- Payment gateways and billing systems are necessary to transact with our customers.

Strategic Consideration:

Our purpose is to conserve storage space on the original storage space to help our customers improve their mobile storage usage rate. We plan to start piloting our App with University students to test our hypotheses before approaching developers or mobile gamers. Our primary strategy would be the target for university students. With the widespread use of students, more people would be influenced. More students would like to use our app. Our app would have more opportunities and free advertisements. As the number of users increases, it will push other people to download and use it.

Team Members:

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Go/ No Go Recommendation (Appendix):

Based on the market size and market response, our team is recommending a Go! Our team is convinced that the customer's requirements are authentic and addressable. At this point, our team would move forward with test market's interest and develop further insights into customer needs.