FlyReview

Airline review application

Advance Mobility and Cloud Computing

Instructor: Dr. Arjan Durresi

Project By Kishan Ramoliya - kramoliy@umail.iu.edu
Ravikumar Shah - rhshah@umail.iu.edu

Abstract

Cloud computing is applications and services offered over the Internet. Such services are offered from data centers present all over the world. Such services are collectively referred as the Cloud.

FlyReview is designed to help air travelers who want to give feedback about their experience during the flight. This will let airline companies to gather customer reviews which will help them in improving their quality of service. Application will be developed for iPhone users which will use API's of parse.com.

We are planning to provide search options for the application user so that they can use the pre-loaded list of airlines or add new one which are not available in the list. There will be two options available for the application user, i.e. either they want to complement or criticize the quality of service that they received during their journey. Some other basic review questions will also be included. User has to first register themselves using their credentials which will help the airline companies to contact them for more information. User will also be able to share their review via Facebook, Twitter, WhatsApp and Email. We will provide attractive user interface. We will save this information on cloud server which will be distributed to the respective airline companies.

We cannot ignore the fact that there are many such sources available through which we can write our reviews, but to have such mobile application for review will let user and airline companies to post and search the actual customer feedback helping them in improving the quality of services. Also the Smart phones have gone through long way in providing mobility of information. More than 182 million users are already there in US who uses Smartphone's according to the forecast of statista.com. This numbers has been increasing drastically in the recent years. To have such an application on phone will bridge the gap between customers and airline companies. Such feed backs and review data are considered very important this days.

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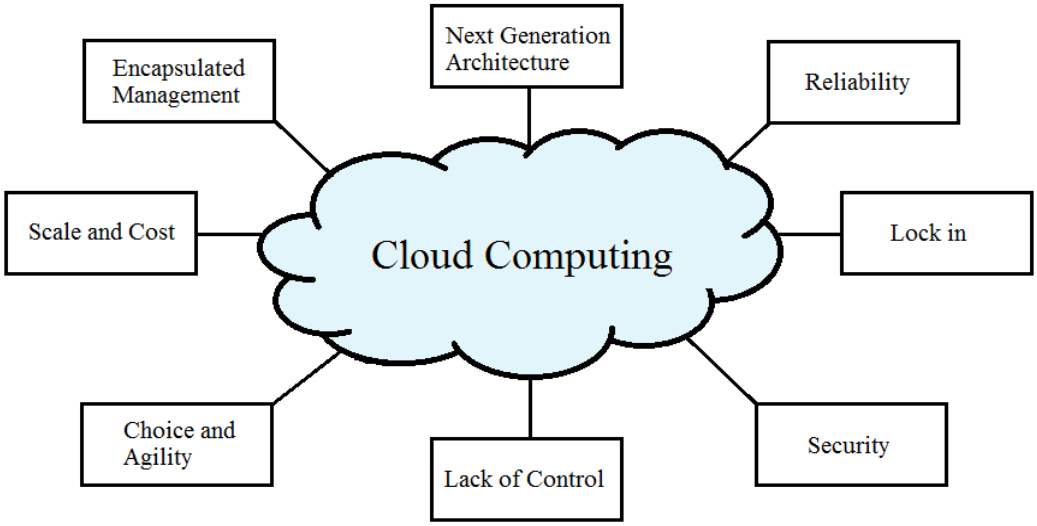
Introduction

During the evolution of computers and technology, the field of data and information processing has evolved from mainframe computers to personal computers to server-centric computing to Web to the cloud. Many big firms have realized the benefits of using cloud computing and have started considering it. The main goal of the cloud computing is to implement the supercomputing power generally used by research facility to perform large number of computation in consumer oriented application that will provide data storage and computation power. To achieve this it uses network of large number of servers that will operate low cost systems of the consumer that are connected through internet or any other network such that it can easily spread the processing cores. This shared infrastructure of the resource are linked together. Generally virtualization methods are used to improve the processing power of the system.

Now a days cloud computing has attracted a lot of corporate data centers as it enables the user to operate through the internet that lets user to access the shared resources in secure and scalable manner. Especially for small and medium size business firms, are currently trying to use this cloud resources as they need such resources and it is difficult for them (money wise) to maintain such high level software's, servers and storage of their own. Through cloud computing such small business can easily get such type of services as and when required. This services are pay as you use that lets the users decide what they want to use and only pay for the services that they use. Along with this it allows the users to improve their business model capacity and computing resources from anywhere in the world.

User access the cloud application through web browser or desktop or mobile application which makes the use easy. All the resources that user has subscribed for can be accessed vai internet connection.



Why Cloud?

We know that most of the big firms have multiple branches throughout the world. It is not possible to store and compute the data of the company on one single system. They need to connect each and every system and branches worldwide. They have to find one way to share the data and compute them which will be reflected to every connected system. This is the point where cloud comes into picture. Cloud provide scalability to the users in terms of connection, sharing of data and computing them. Also it is not feasible for all the companies to develop such expensive infrastructure and manage them. Cloud computing lets users to avoid such initial infrastructure costs, and allow them focus on projects on whom their businesses depends on and not on infrastructure management of the systems. Cloud computing allows companies to get their applications run faster, with improved management and less maintenance. The cloud aims to cut costs.

The main technology that has changed the way that cloud computing is use of virtualization. Using virtualization a physical device with large capacity can be divided into many virtual devices that can perform computation easily. We can easily divide the computing resources and allocate them as per the need of the user.

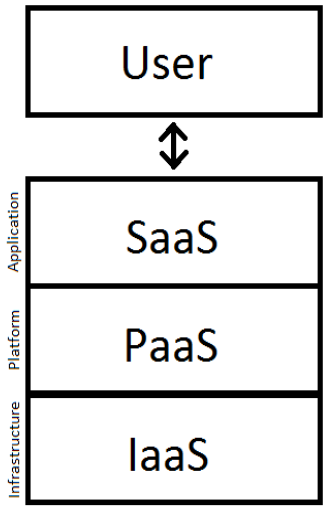
Some of the key characteristics that cloud show is given below:

- Make the resources device and location independent.
- Provide efficient management of the resources.
- User's ability to use infrastructure as resource.
- Reduces cost.
- Easy maintenance of the computing infrastructure.
- Highly scalable and reliable.
- Secure.

Cloud provides offer number of services as per the need of the user. Basically the services are dived into three category. They are listed below:

- **Software as a service (SaaS)**
  - Users are provided application software and databases as service.
  - Cloud providers manage all the infrastructure and platforms that runs the application. It is called as "Software on-demand".
  - Users are generally priced on a pay-per-use way.
  - The provider will install and manage the software application that they provide as service to the user. By this the user don't have to install the software on their own system.
  - E.g. Google apps, Microsoft office, etc.

- **Platform as a service (PaaS)**
  - Users are provided computing platform that will include operating system, execution environment for programming development, web server and data base.
  - Here user can develop and run the application program.
  - Windows Azure, Google App Engine, etc.
- **Infrastructure as a service (IaaS)**
  - User are provided virtual or physical machines.
  - User has to install their operating system and software's as per their requirement.
  - Provider will only provide computing resources.
  - Amazon EC2, VMware ESX/ESXi, etc.



Basically clouds are divided into three models. They are given below:

- **Private cloud**
  - It is created solely for single company.
  - All the system are user specific as it is created for private use, so it is designed according to the user's requirement.
  - Normally user will himself develop and maintain the cloud.
- **Public cloud**
  - Services of such type of cloud are provided through network and is open for all.
  - As this is open for all, there is need of strong security and proper management principles should be implemented.
  - User will subscribe to the services that cloud provider provides and will pay accordingly.
- **Hybrid**
  - Hybrid cloud is composition of both private and public cloud.
  - Few part of the cloud system is open for the public use, but few portion is kept for the private use.

Motivation

Today air travelling is not considered luxury. It is more like daily need for the people. People now a days do check reviews of all the thing before they use or buy anything. It has started a totally new trend for all companies to gather customers review. This led us to the idea of this FlyReview application. In this application we tried to bridge the gap between the customers and the airline company, using this application the airline company can gather the reviews of the customer easily. Customer can post their experience throughout the flight using this application which will be directly accessed by the airline company.

All the gathered data will help Airline Companies to see if the customers are happy with the service they provide and improve accordingly. If the services supplied by airline Company meet or surpass customer expectation or not. Also customer satisfaction ratings can have powerful effects. Therefore, it is very important for any businesses to effectively manage customer satisfaction. To be able do this, firms need reliable and representative measures that can gather and provide them this information.

Background research

There are many online websites available that provide such type of reviews for airline companies. But there are no mobile application available for the same to the best of our knowledge. This application is our sincere attempt to build such an application. We studied the websites like airlinequality.com, tripadviser.com and airlineratings.com for gathering some information about what type of information that they gather, the way they gather, etc.

For displaying the information of the airline company in our application we gathered data of around 75 airline companies which includes logos, URL to their website and their rankings. We have tried to cover as much as we can in this mobile application.

Application Development

We have developed this application for the iPhone users. Following is the list of tools and environment we have used.

Platform:

- iOS

  iOS (iPhone OS) is an operating system for mobile devices developed and created by Apple Inc. and is used exclusively for Apple hardware. This operating system is used by many devices like iPhone, iPad, and iPod touch. It has many control elements in its interface like of sliders, switches, and buttons that makes it easy to use for user.

Tools used:

- Xcode

  Xcode is one of the IDE (Integrated Development Environment) that contains development tools for development of software's and application for iOS. Using the iOS SDK, Xcode can be used easily to compile and debug applications developed for iOS. It include WebObjects framework and tools that enables the building of java web application and services.
- iOS SDK

  iOS SDK (Software Development Kit) is developed by Apple Inc. for the development of iOS applications that provides software development kit.
- iOS simulator

  To test and run the application we have used the simulator of iOS that will provide all the necessary functions and resources through which we can test our application properly.

Cloud Data service:

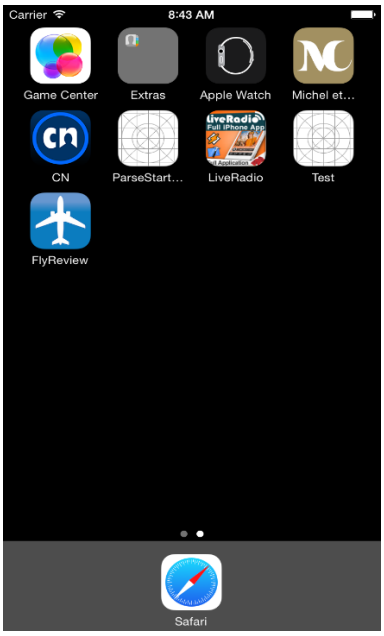
- parse.com

  We have used parse.com as mobile an MBaaS (Mobile Backend as a service) that provides a way to connect the mobile application to the backend cloud storage. It provides features like integration with some web services, better user management of the data, notification facility, etc.

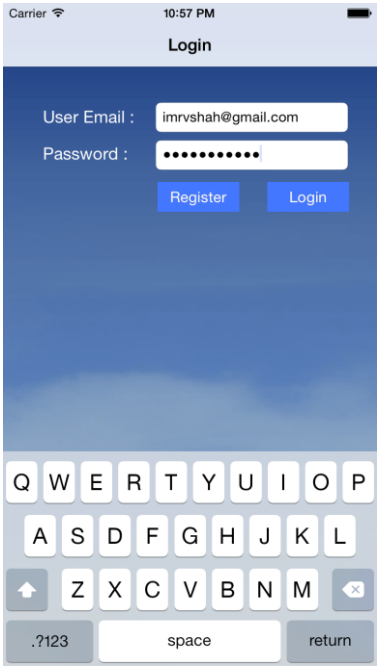
Working of Application

Below given is the flow of the application step by step.

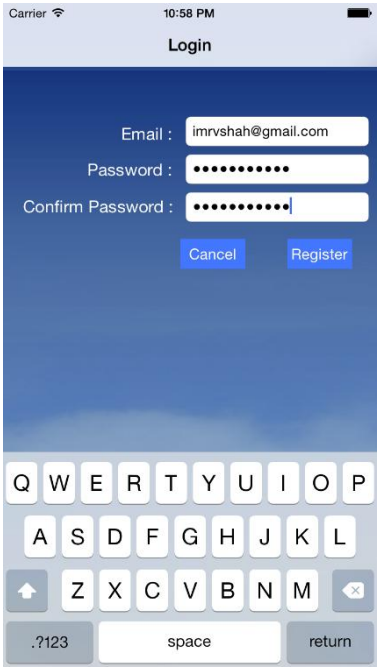
- **Menu screen:** From here we can start the application.



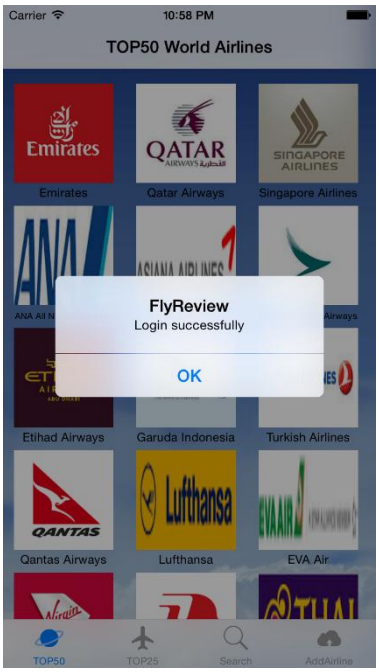
- **Login Screen:** From here user can login them self-using the credentials like Email and Password. Proper validation is implemented to overcome false entries.



- **Registration Screen:** Through this screen user can register them self if they don't have account. We have kept the registration form short. If the user already have an account than then he can use his credentials and directly login to the application.

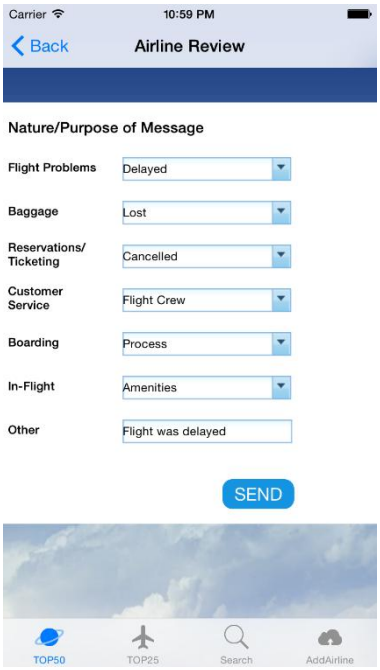


- **Home Screen:** This is the home screen. It starts with the list of top 50 airline companies pre-loaded into the database. We can select any one of them for providing review.

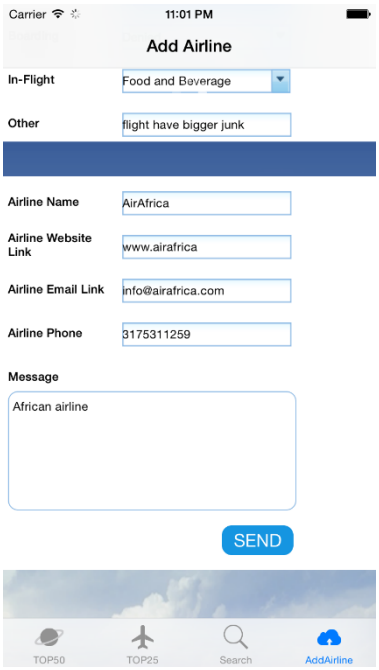


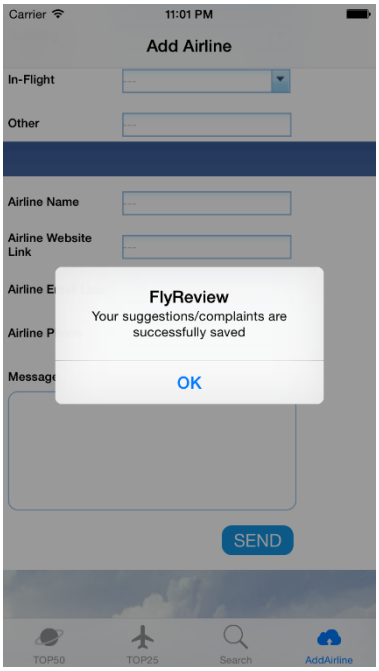
- **Search Screen:** In this page user can easily search the airline that user wants to give review.

- **Review Screen:** Using this screen user will be able to enter the review of the airline. Form cover all the possible questions that a user can provide.

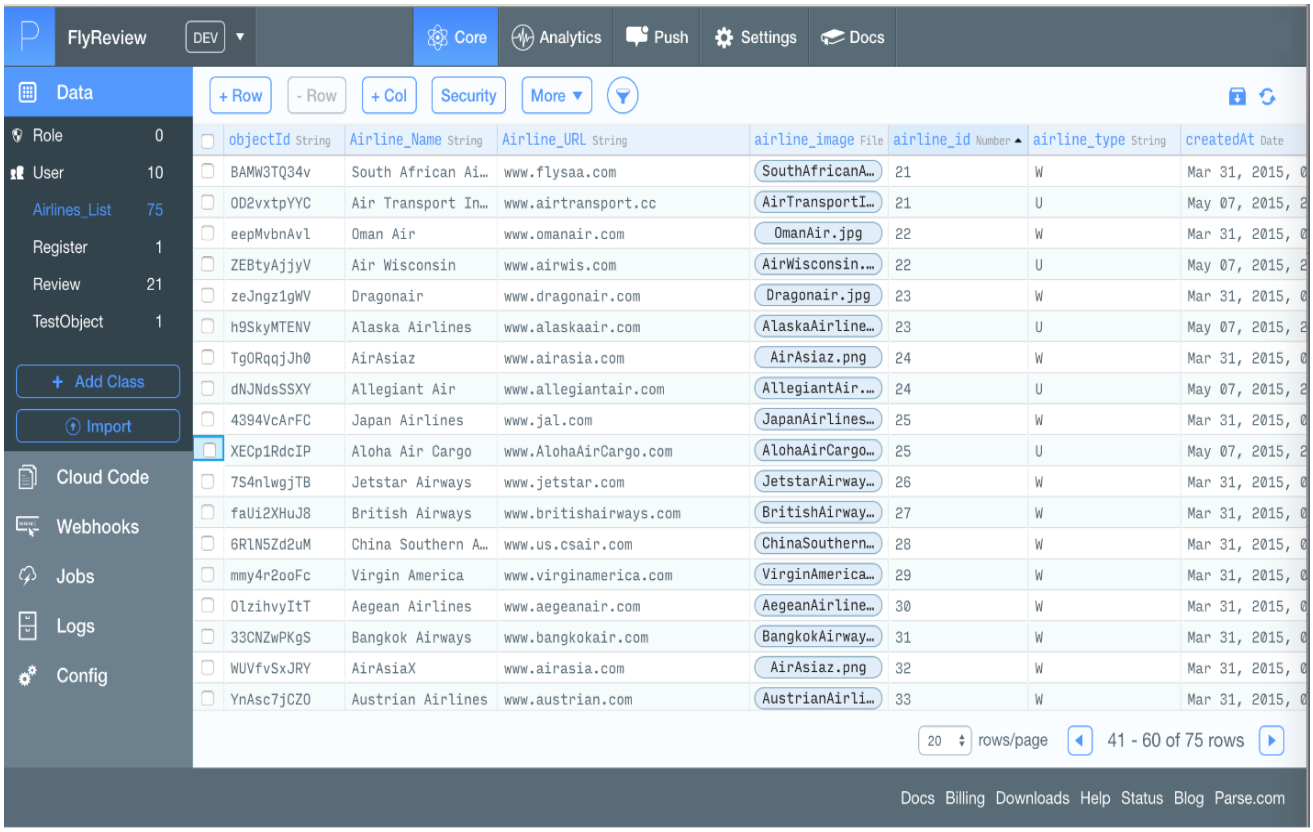


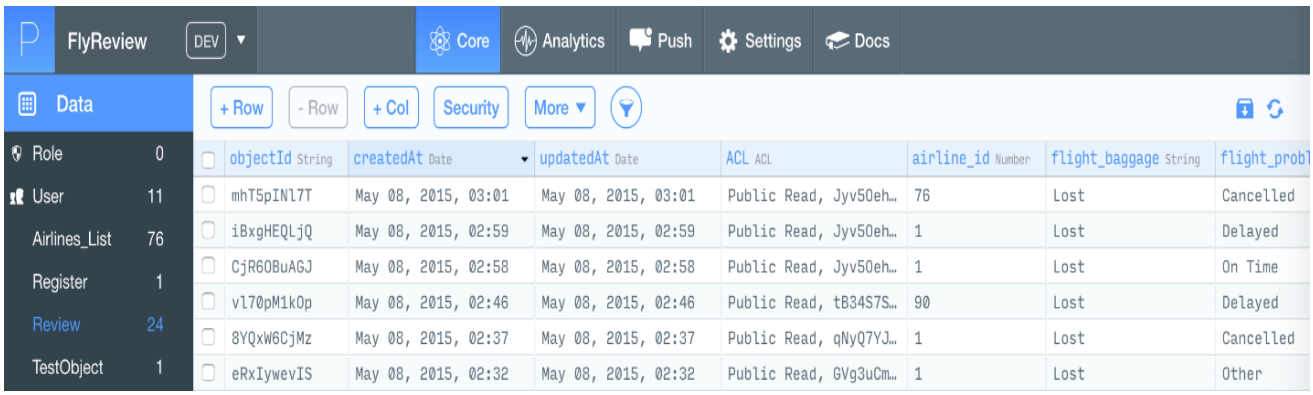
- **Add Airline and its Review:** Using this screen user will be able to enter new airline if it is not available in the pre-loaded list and add the review of that. Form cover all the possible questions that a user can provide.



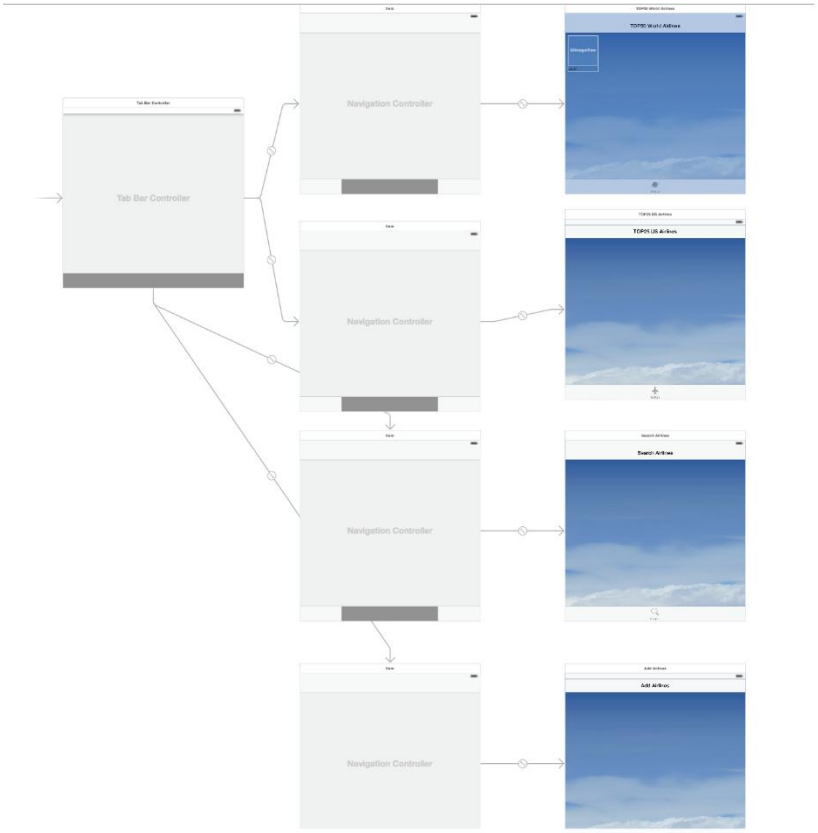


- **Backend database:** Following are some screenshots of the parse.com data base that we have used. Once the user enters the review or add new airline, entry will be made to the data base table.

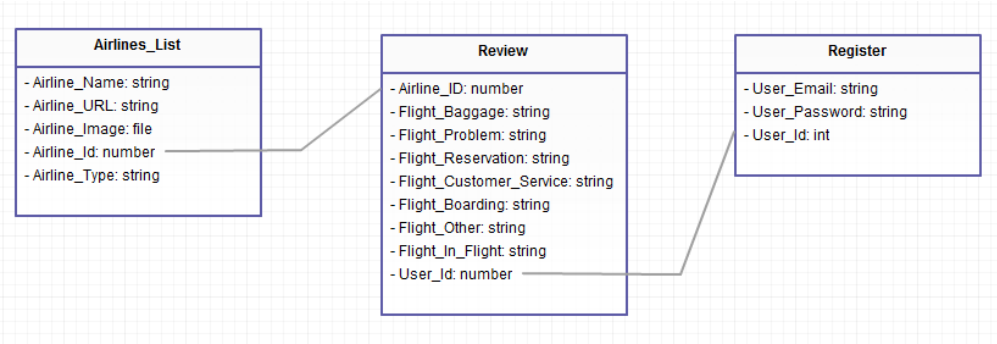




- **Application Flow:**



- **Class Diagram for Database:**



Future Improvements

We have tried to cover most basic functionality that are needed for the first phase of the application. There are some points that can be improved. Following is the list that are potential improvements that can be made:

- We have kept user interface of the application very simple so that it is easy for the user to use the application. It can be improved as much as we can.
- Also we have to contact airline Company to discuss about the ideas.
- We can add facility through which we can verify the identity of the user by email verification process.
- Also we can make improvement in the performance of the application by improving the code.
- We can add new question in the review form that will collect more information from the user.
- We can improve the application by providing more interactive interface.

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