

Airline Mobile Reservation Development

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Abstract: As the technology innovations are quickly developed including mobile technology, mobile application for reservation services can enhance individuals' life, make it less complex. This research presents a mobile reservation system for airline companies to simplify the process of booking a flight. The users usually buy their ticket manually and maybe wait in a queue to check the required flight. The proposed system implemented to overcome manual system problem by making booking from home or elsewhere and save time and effort.

Keywords: ARS, mobile application, reservation system, Android, airline, booking.

I. INTRODUCTION

The most technological growth in the world have been within the last years, the improvements in different field made life easier, less complicated and extra comfy. One of these improvements is airline industry which has developed into one of the most advanced industries these days. Nowadays thousands of flights are needed by individuals daily. Thus the economies of countries also related individuals and societies cultures will be reinforced. The improvement of innovation has brought about huge advancement in flight booking system through last years. The manual ticket systems on the beginning of airline travels were just from paper and were to be gathered from the travel organizations or Airline Company in the wake of buying. With the globalization and the progress of airline industry, the procedure of reserving flight and buying ticket has additionally changed. Since the fast development and utilization of internet and mobile technology, mobile applications for reservation services become more common and make life easier. This led to reduce the utilization of manual system mechanism that spent more time and efforts. Airline companies who deal with mobile reservation system all information of users include the data of the traveller's name, flight date, the flight number, flight destination, wages, ticket legality, condition if there is any change in reservation and refunds, would be save automatically and safety, that make reservation process easiest and organized.

II. LITERATURE SURVEY

Many researchers have applied many algorithms in online reservation system these work can be presented as following:

Oyelade O. J. et al. in (2009) [3], Olaniyi, et al. in (2010) [4], Pranjali kharwade et al. in (2014) [6] presented a mobile application for airline reservation system with some differences in design methodology. Oyelade proposed system was produced utilizing the Wireless Markup Language (WML) as frontend, MySQL 4.0 database administration framework as back-end and PHP (Hypertext Preprocessor) as the server-side scripting

language, while Olaniyi depended on .NET framework and MY SQL 2005 database management system for the back-end. And Pranjali introduced android application for ticket reservation and validation using mobile tower network. The system used SQL lite database and served as medium for people to book a ticket to travel through metros or locals.

Ahmed K. Ibrahim and Azman B Ta'a[7] and Subarnarekha Ghosal et al. [10] in 2015, developed android application for ticket booking. Ahmed developed a prototype of mobile bus ticketing system (MBTS) in Iraq using agile software development approach and Unified Modeling Language (UML) using Phonegap framework. Also JavaScript, jQuery mobile, HTML5, and CSS3 on mobile side also applied. Besides that, MySQL Database and PHP on the server side with RESTful used to serve a mobile application request. While Ghosal presented Android Suburban Ticket (ASR), A CLOUD database is used to store user data for security purpose, java language used to implement the system with PHP development framework.

Pooja Gautam, in 2015[8] and Chintan Shah, Wenbin Luo in 2016 [11]: Introduced a dynamic web application for reservation system, Pooja's airline system working with databases SQL lite, programming languages Python and JavaScript as well as using local server in Django to run the application. Chintan's workshop reservation system used an Apache web server hosting that understands PHP scripting language and is connected to a MySQL database, which decreased the amount of paperwork, time, and effort which spent by an attendee on registration operation. It can also reduce the errors resulted of the manual registration process.

III. PROBLEM STATEMENT

Since the manual system is slow, consume in time, boring and it is troublesome for every individual to book through office operators, collect information about client that they got through telephones, problem in update passenger information if any changes released. With the

development of information technology and use it in an orderly and properly helps to overcome the existing problems in the manual system. Booking system saves the customer information in a database, and this makes it easier in a way to save reservation information. Customer can book and reserve and buy tickets accordingly with save time and effort for the user and the airline employee. Also the users' data are saved simply and accurately the client never loses his ticket as in the manual system.

IV. PROPOSED SYSTEM

The created system will ease airline booking create account to the client, save details about client, gives menu of trips and their costs and dates to be reserved and there is a customer care services and details about the company and how to contact them. Figure 1 flow chart of system working.

A. System design

The framework based mobile reservation application uses client/server architecture. At The client by using android device can connect via internet with server that PHP and MySQL in server side responsible for the users' requests processes and save or return data from database. Figure 1 represents overview of proposed reservation system design.

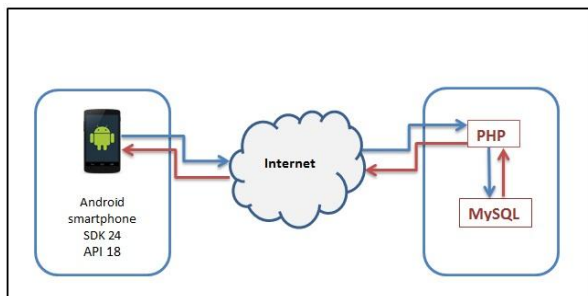


Fig.1 System overview design

B. System activity

The system consists of activities sequence which led to order the reservation tasks. Every task needs few inputs to proceed to the next task activity as the following:

- The first task is to check the user validation account, or register for new account to transfer to book a flight task.
- At book flight activity the user need to fill the required fields to move to
- Confirm reservation (after check flight availability) which saves the user booking information in the database.

C. Database design

The database applied to this application is MySQL which is built with in free host server. Four tables are created which are; users, flight, city, and book. User information, booking information would be saved in users and book table. Admin of system has ability to update flight information by adding new flight, change user information

or booking information, contact with user if there is an error or flight cancellation or any an emergency. Figure 2 show database tables and their records.

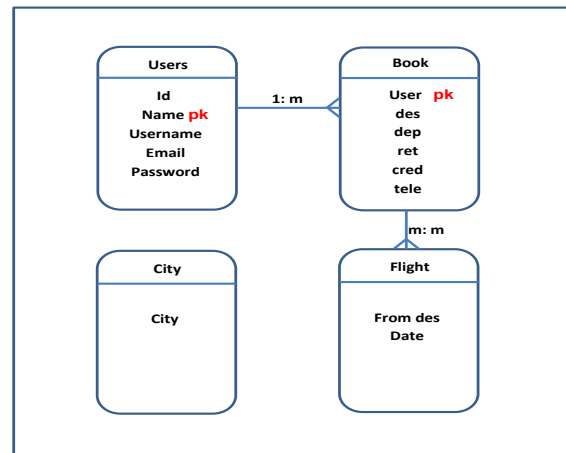


Fig.2 database tables

D. System implementation

The application was developed using Android Studio software design. The layout is user friendly designed with xml and programmed in java classes by the android studio software. PHP and MySQL in back-end for requests processing, accessing, storing and managing data. Figure 3 represent flowchart of presented system.

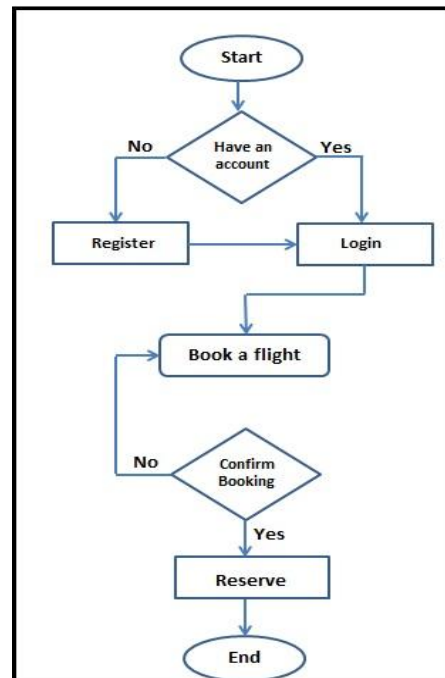


Figure 3 system flowchart

E. System interface

When client uses the application for the first time he has to register, the next time login entered user name and password will check with the user records in users table in database. In booking flight interface city table associated with spinner tools in flight book activity layout that the user chooses 'from' and 'destination' cities. In the flight

table the admin can add new flights available and update flight dates. After user book and confirm the flight reservation all information will be saved in book table.

A message will appear to user tell him the book is done successfully. Admin of system has ability to update flight information by adding new flight, change user information or booking information, contact with user if there is an error or flight cancellation or any an emergency. Figure 4 show book booking flight user interface.

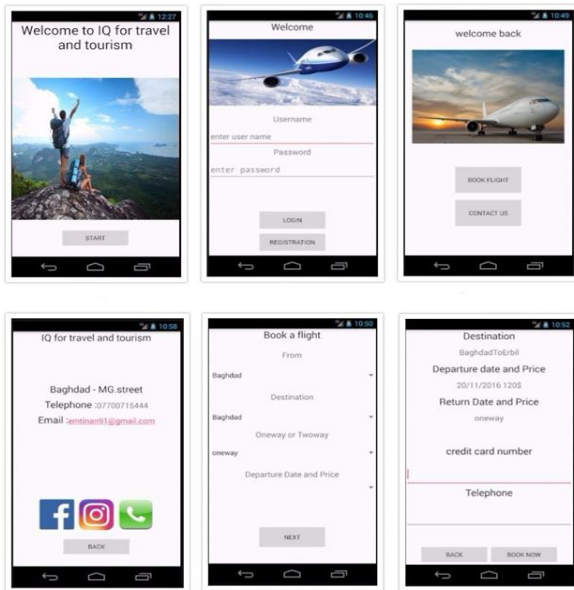


Figure 4 system interface design

F. Class diagram

As shown in fig 5 class diagram show programmed classes that illustrate system functions occur and their sequence. Start with main activity class of login function which get user information, then moved to menu class to get ready to book flight. In book flight class check if chosoes of user fight exist in database to book the required one and move to payment class and confirm the reservation and save it in book table in database.

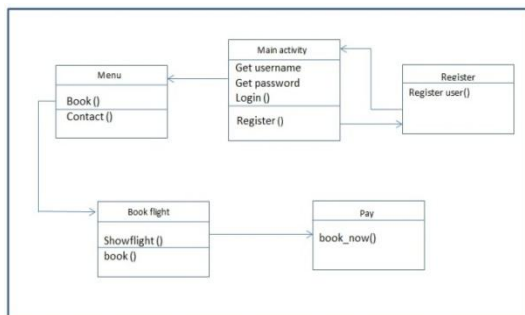


Fig 5 class diagram

V. CONCLUSION

In thispaper, we presented an airline reservation system that we design using an android open source program which gives us flexibility in design.This system is useful for passenger in simple the operation of booking and for

airline companies in managing client reservation information and updating flights data.

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