

UDAN - Ude Desh ka Aam Naagrik

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Abstract - UDAN is an RCS scheme i.e. Regional Connectivity Scheme launched by our Hon'ble Prime Minister Narendra Modi. RCS is vital as connectivity is the key to development in any country. In India, air connectivity between some regions is not so good. Hence, the RCS scheme was launched. Moreover, UDAN (Ude Desh ka Aam Naagrik) means "letting the common citizen of the country fly". The Ministry of Civil Aviation (MoCA) in India released it on 15 June 2016. It aims at making aviation affordable and widespread, boosting the travel and tourism in the country at a reasonable fare. It will also help in boosting national economic development, job growth. Hence, this scheme has 2 main components. The first component is making flight travel affordable for the common citizens thereby enhancing the tourism within the country (UDAN). The second component is to feature several hundred financially-viable, capped-airfare, new regional flight routes to link about 100 underserved and unserved airports in smaller towns amongst themselves also like the well served airports in bigger cities (RCS). The Government will provide a "Viability Gap Funding" (VGF) to the flight operators related to the scheme whenever needed.

Keywords - Air ticket booking, Regional Connectivity, Airline reservation system, Booking, Flight booking system, RCS, Reservation, Ticket booking system, UDAN.

1. INTRODUCTION

India is the third largest aviation market in the world's aviation industry. It is of great concern that tier-II and tier-III cities are connected by air. As a result, to enhance regional connectivity and connectivity to tier-II and tier-III cities, UDAN Scheme was launched by the ministry of Civil aviation and government of India in 2017[6].

The UDAN scheme aims to bring connectivity to unserved and under-served airports of the country. This will be done by reviving existing air-strips and airports. It would benefit all stakeholders: the citizens would get the

advantage of affordability, connectivity and more jobs [6]. It will provide viable and profitable business to operators. It aims at promotion of tourism, increasing employment and promoting balanced regional growth [6].



Fig -1: UDAN logo

The major objectives of the UDAN scheme are as follows:

- Revival of the prevailing under-served and unserved airports / airstrips in smaller towns.
- Helping people by providing them affordable flights and hence boost connectivity.
- Providing viable and profitable business to operators.
- Promotion of tourism, enhancement of employment, establishment of balance in regional growth.
- Opportunity to small and first-time operators and asking them to contribute to the rapid growth in passenger traffic.

The key features of UDAN scheme are as follows:

- RCS is applicable on route length between 200-800 kilometers with no lower limit set for hilly, remote, island and security sensitive regions [6].
- 50% of the seats must be committed as RCS seats on RCS flights.

- Promotion of affordability of regional air connectivity [6].
- Providing support to airline operators through financial support (Viability Gap Funding or VGF) is the aim of RCS. Also, to satisfy the gap if any, between the cost of airline operations and expected revenues on such routes [6].
- The fund for this scheme would come from a Regional Connectivity Fund (RCF), which is created by levying certain charges on certain flights. States will need to contribute around 20% to this fund.

1. The selected flight must be an RCS flight.
2. The selected route must be an RCS route.

RCS airport is any underserved or unserved airport pursuant to the RCS scheme. RCS route is a route on which at least one of the origin or destination airports is an RCS airport. RCS flight is a domestic flight operated by a specific airline operator pursuant to this scheme. VGF i.e. Viability Gap Funding is provided by the Authorities to the Selected Airline Operators in accordance with the scheme.

Table -2: Seating capacity of various category airplanes[3]

Sr. No.	Category	Seats
1.	Category-1A	<9
2.	Category-1	9 to 20
3.	Category-2	21 to 80
4.	Category-3	>80

2. ABOUT UDAN

Table -1: RCS UDAN Schemes [1], [2]

Parameter	UDAN-1	UDAN-2	UDAN-3
Launch month and year	December 2016	September 2017	October 2018
Routes	56	297	335
Total airports	43	30	23
Underserved airports	12	5	3
Unserved airports	31	25	20
Operational routes	54	104	74
Airlines	5	15 (2 with 0 VGF)	11

An airfare cap is defined by the MoCA which suggests the all-inclusive maximum permissible airfare for an RCS Seat. RCS has the main aim of connecting unserved and underserved airports with airports with one another also like the served airports in bigger cities. An underserved airport is an airport at which there are no more than 7 commercial flight departures per week. An unserved airport is an airport at which there are no commercial flight departures.

For an RCS seat, 2 mandatory conditions must be satisfied:-

3. LITERATURE SURVEY

This includes various articles and survey papers that were referred.

A. Udan - A New Paradigm Shift In the Tourism Industry With Reference To North East India:

The main key to the development of any country is the connectivity of its various regions. The better the connectivity, the stronger will be the employment sector of the country. It will also boost the economy and tourism sector of the country [4]. Moreover, building connections to tier-II and tier-III cities creates a network by bringing in additional people into the aviation network [4]. Economic value across the chains are going to be enhanced by the new passengers. They also increase the worth of already-served airports. The efficiency of the businesses will be increased. India's vast tourism potential will be made accessible by this scheme. Also, responses to medical emergencies will be made viable and national integration will be promoted [4]. This study aims at studying the impact of UDAN in the aviation and travel & tourism industry. This study is based on various secondary sources of data, collected from newspapers and the internet. According to this study, the main aim of this scheme is conversion of the dream of a common man to travel by airlines at pocket friendly fare, into reality.

B. Influence of 'UDAN' Scheme on Network and Regional Connectivity of Indian Airports:

This research focused on the influence of the newly launched UDAN scheme on the overall connectivity of the Indian airports, be it Network or Regional connectivity. It says that a considerable growth in terms of passenger traffic and connectivity was demonstrated by the Indian domestic aviation. Since 2013, an annual growth rate of 15-20 percent in the domestic sector alone was recorded by the sector according to [5]. Various new connections are also established to the already existing airports as well as the new airports. This is because there was an addition to huge demand on high frequency routes. Following that, the demand in lower tier cities saw a rise rapidly. RCS-UDAN is considered as a regional connectivity booster and hence aviation policies were drafted along with this booster. This paper [5] studies NCAP (2016) and UDAN scheme with respect to domestic connectivity perspective and interactions among airports in India. Evaluation of the growth of existing airports in relation to the tier system is done by the scheme. The Domestic network community of India is classified into four sub-communities. These communities are North, Central, East and South zones, with at least one metro hub in each. Degree, k-value, Z-score, and participation coefficient (P.C.) and other such network connectivity attributes are assessed over sub-communities. This is done in two scenarios: the network without UDAN routes and overall network including RCS-1 & 2. Hubbing Potential Index (H.P.I.), Community Index (C.I.) and Inter Community Coefficient (I.C.C.) and other such terms were coined by this study. Additionally, connectivity indices in community level (whole domestic network) were also examined. This was done so as to estimate its global outlook and accordingly draw conclusions. The connectivity of Indian domestic network is augmented multiple times according to this study. This is due to UDAN routes and formation of new hubs in different classes. Average community indices of all airports have improved further, proving better regional connectivity. Many unconnected regions in India, especially the NorthEastern part, are now visible in the aviation sector map. In short, this scheme has boosted various sectors of the country in various ways and has proved to be beneficial for the country) [5].

4. CHALLENGES OF THE SCHEME

Some of the challenges faced by the UDAN scheme are:

- The major part of concern for the success of the scheme is its infrastructure. Its infrastructure depends on availability of bays at the private airports in metro cities.
- As the main aim of this scheme is to connect more and more parts of India, it faces challenges to connect the parts of India and the world at large.

- Safety concerns of tourists due to insurgencies is also one of the major challenges.
- Finding time slots will become an administrative challenge as more and more parts of the world will be connected.
- One of the challenges this scheme faces is to make pilots available.
- Another major challenge is to gather funds for Viability Gap Funding (VGF).
- Land Scarcity is also one of the challenges. Since airports occupy vast areas, acquiring land is not easy.

5. ISSUES IN IMPLEMENTATION OF SCHEME

- The major issue this scheme is facing is to spread awareness among people.
- Only a chunk of people know about the scheme and are able to get benefit of the same. This benefit is also taken by third party applications to do the fraudulent activities.
- The success rate is apparently less than 20% according to an analysis by outlook of the first two phases of RCS routes along with air operators, industry experts and AAI traffic reports.
- Not more than 40 to 60 air routes out of 440 odd air routes allotted to 14 major and fledgling airlines under the two phases of UDAN are operating.

6. IMPACT ON STAKEHOLDERS

- For current airlines there is an expansion as new routes and more passengers are added. For start-up airlines there can be a vast opportunity of huge and scalable business.
- Regional connectivity will lead to the expansion and the cheap fare for passengers will also play an important role in the tourism sector.
- Airport operators will not charge landing, parking and terminal navigation charges [4].
- As flight is the fastest means of transport, people in small parts of the world can also afford and get benefits to reach his/her destination as fast as possible.
- Passengers flying on profitable routes will be charged 2% less by the government which in turn will affect people flying on regular routes according to [4].

7. TOURISM AND UDAN

- In India tourism was not given a weightage in previous policies. The changing global scenario, abundant opportunities has changed the mindset of policy makers and has attracted many tourists.

- Every year thousands of foreign tourists visit Agra and Jaipur. There is no direct air connection between these two cities.
- Every time tourists visit these cities, they have to come back to Delhi. This becomes quite inconvenient for the tourist. Some other tourist destinations also face such problems according to [4].
- The UDAN scheme will give a boost to both domestic and inbound tourism, this will act as a catalyst for business expansion and leisure travel.
- This scheme will help a lot to make an affordable price for flight tickets to a common man.

8. LACUNA IN EXISTING FLIGHT BOOKING SYSTEMS

Nowadays, there are many flight booking systems or applications. They take input from users, various fields like departure date, arrival date, source, destination, passenger class, type of trip (one way, round trip or multi-city) and accordingly display a list of flights available under various airlines. Once, user books ticket(s), the payment process is done. Users can then view the status of his tickets and history of his previous bookings.

If RCS scheme is applicable while booking, there is no way by which the user is informed about it and hence, the user has to pay the original price for booking the tickets, even though he is eligible to avail the scheme and book tickets at a lower price. This is the major drawback of the existing systems as the scheme was developed for the people and people cannot avail the benefit.

Also, in the existing systems, if a passenger is eligible for an RCS seat, then too the third-party apps charge more due to the lack of awareness about the RCS scheme among the users. The third-party applications buy tickets at the rate under RCS scheme and sell at market rate to the travellers who belong to RCS. This is a fraud. In spite of being eligible for an RCS ticket, people always end up getting tickets at normal cost which they cannot afford.

9. IMPLEMENTATION DETAILS

The main challenge of this scheme is the lack of awareness among the people about the scheme. Also, there are various drawbacks in the existing flight booking systems. Keeping all this in mind, we have thought of designing a flight booking application in which the RCS scheme will be incorporated. The application "UDAN - An RCS Flight Booking Application" will aim at giving benefits of RCS along with the normal booking of flight tickets to the registered passengers. The passengers get benefits of this scheme only after the thorough validation of RCS route, RCS flights. If he/she has selected a valid RCS route and wishes to travel with an RCS flight, then he/she will be allotted the RCS ticket. Otherwise, he/she will have to proceed for normal booking.

The application provides one more benefit. If any passenger has cancelled his/her RCS ticket, the ticket would automatically be transferred to the next eligible passenger. The application will also take care of refunding extra money paid by the subsequent passenger and a part of the ticket payment will also be refunded to the traveller who has cancelled the ticket.

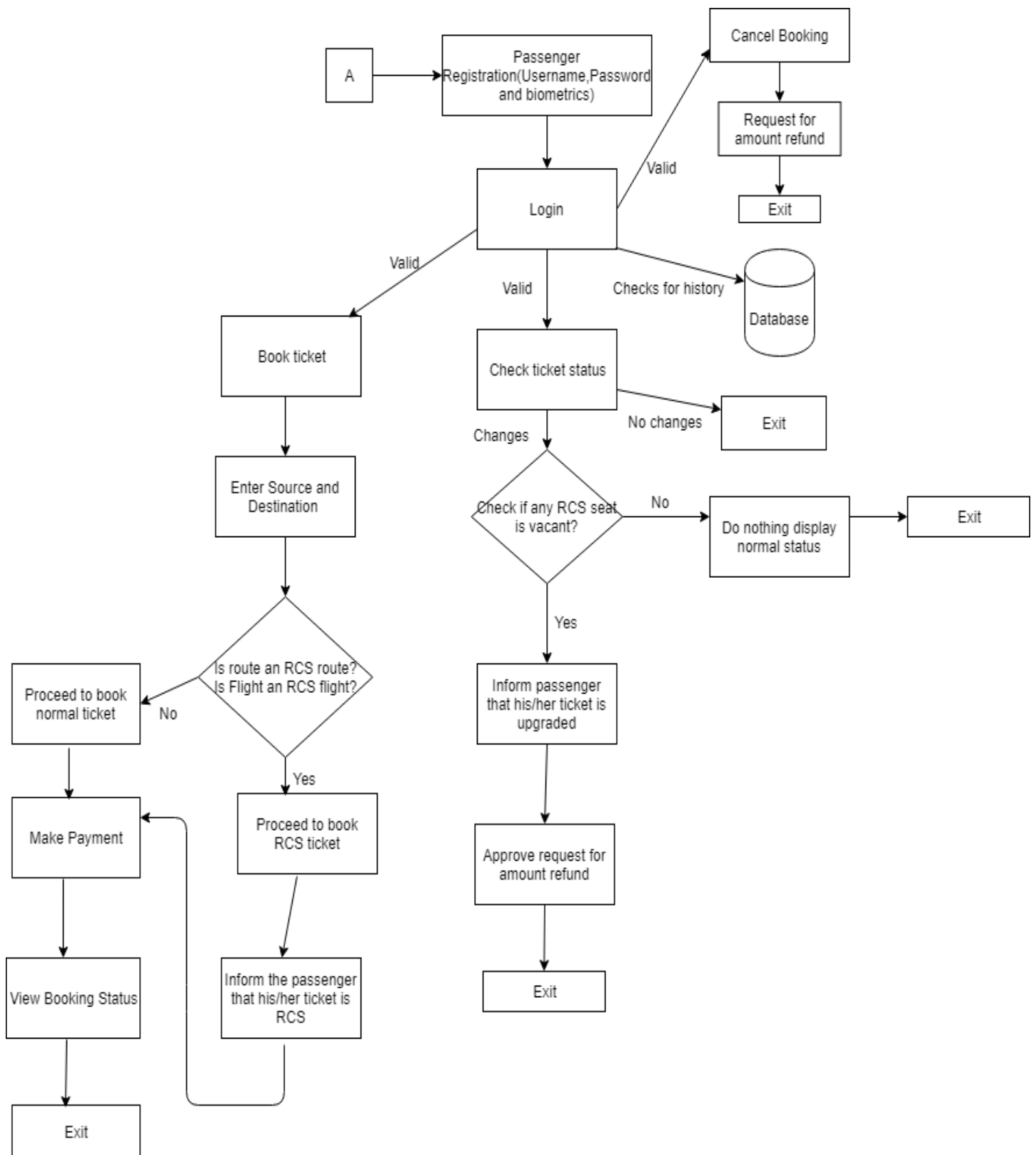


Fig-2: Workflow diagram

Figure 4 shows the proposed flow diagram of our application. The application can access the database in order to add information about users registered. Flight query results can be obtained by accessing the flight data

from the database. The system can be used by users as well as the ministry.

Various users in the application will be as follows:

- System User: The users can view their previous booking history, book or cancel tickets, view ticket status.

Few major modules of the application are as follows:

- Booking: Users can book their tickets. RCS and non-RCS, both the type of tickets can be booked. The live flight results will be fetched from the Skyscanner API.
- View status and history: Users can view the status of their tickets as well as their previous booking history.

10. FUTURE SCOPE

- The Ministry can use this application to book tickets as well as perform other tasks such as generation of reports, performing analysis etc. To book a ticket, the Ministry will have to login as a passenger/user. To generate reports, they can enter a particular name of an airline, a particular route and duration. Then, a report will be generated which will show the fraudulent and non-fraudulent bookings. Thus, fraud detection is performed. The Ministry can view various analysis reports and visual pie charts such as the revenue generated by various airlines, total number of flights and bookings under a route, etc.
- Reports and Analysis: The Ministry can generate various reports from the data as well as perform analysis of data.

11. CONCLUSION

The RCS - UDAN Scheme has the aim of fulfilling dreams of a common man of flying. The scheme will be impactful and will prove to be successful, provided its launch and the degree of monitoring and supervision. This scheme will give a great boost to the economy of the country. It will help to improve connectivity too. Besides connecting the regions, it will help in improving the connections of people with their family and friends. It will prove to be useful for employment as well as the tourism sectors. It will provide jobs to both skilled and unskilled.

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