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CAPPS-NEED OF HOUR IN AVIATION SECURITY

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ABSTRACT:

Civil aviation is always the silver bullet target of the terrorist due to countless favorable reason for them. The World Trade Center attack on September 11, 2001, was an eye-opener for the law enforcement agencies across the world. Numeroussophisticated technologies and resources pumped in to keep civil aviation safe to avoid another airborne catastrophe and the world community succeeds to a certain extent as well. However the augmentation of stringent security increases the woes of the passenger at airport and sometimes valuable customer feels they are considered as suspected terrorist. Travelers today demand quick clearance and greater convenience. The outbreak of Covid-19, adds one more misery. But exponential growth of passenger and inundated infrastructure always create obstacle in this direction. This paper discusses about the solutions to the aforementioned dilemma in certain extent, and proposes new processes and alternatives that simultaneously satisfy both passenger and security.

KEY WORDS

Civil Aviation, Cutting Edge Technology, Passenger's convenience, Security, Terrorism

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I. INTRODUCTION

Civil aviation remains a golden target for the terrorist due to countless favorable reasons for them. After the first hijack incident in 1931, in Peru, a number of terrorist attacks have happened against civil aviation. However in those days world countries never took as much serious and even some countries provided political asylum to the hijackers. The situation changed dramatically in the 1980s with the appearance of terrorist bombings of aircraft.Subsequently, world countries formulate different measures and procedures to prevent further unlawful interference in the civil aviation. In spite of this attack on world trade Centre on September 11, 2001 reveal the loopholes in the prevailing system. The episode proves and demands more exhaustive and comprehensive security measures to prevent further unlawful interference in the civil aviation. This create a complex situation to the law enforcement agencies as the existing system itself create hindrance to the passengers in the airport and sometimes feels it is bit exaggerated one and more stringent security measures may keep away the innocent passenger away from air voyage. Any augmented security measures not only increase the passenger experience in civil aviation especially in the airport but it will not compromise security of the civil aviation. In these aspects for the comfort movement of passengers, increase their experience, and increase the security of civil aviation cutting-edge technologies are incorporating day by day. Computer assisted passenger prescreening system is a big stride in this direction.

II. CIVIL AVIATION –A SILVER BULLET TARGET

Most of the terrorist occurrences all through the world show that terrorists, looking to maximize life misfortune, financial and typical pulverization. They have changed their center to chosen delicate non-combatants or civilians targets technique in which focus on innocents as casualties. The cover of media scope guaranteed for any act of inhumanity is impetuous for them in selecting the target(Jenkins, 2016). It is to seek after a political cause through the massive publicity connected to frightening occurrences. The terrorist does truly point to what we call symbolic targets. Terrorism may be a shape of theater, so, they are planning to hit targets that will make the public maximally anxious and deliver the most extreme sum of humiliation (Flintoff,2012). Terrorist attacks on civil aviation regularly demonstrated greatly viable in yielding the important strategic purpose of their needs. This includes high publicity, international ramification, economic and financial impact, high-cost ramification, the prestige of the country, and psychological impact on the citizens of the affected country, impact on tourism and global trade, and e-commerce.

III. NEED OF TECHNOLOGY IN CIVIL AVIATION

Civil aviation security has always been considered as a sector of the prominence of technologies where a judicious blend of technological advancements has been applied to achieve the desired goal. It starts from the beginning of the voyage like booking of the air tickets, the entry into the airport premises, check-in process, and security checking of the passenger. Passenger's demand and security threat will continue to accelerate and there is no question of relaxing the security at

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any cost. Terrorists are always lurking to find out the weakness in the prevailing system. It can be better countered by the introduction of technology by creating a balance between frustration and facilitation of the passenger. The necessity of incorporating more technologies in the security field and its automation will become more paramount to ensure the convenience of the passenger. In some cases, passengers are reluctant to travel by air due to the heightened security system in the airport. Achieving two diametrically opposite objectives simultaneously increasing the passenger experience and strengthening the security has proven difficult. This can be achieved only through the introduction of cutting-edge technologies. This has multi-faceted benefits as it reduces the redundant human workforce, airlines, and airports able to reduce the operational cost and solve the problem of the rapid rise of passengers. It is undoubted that the introduction of technology always augments the passenger experience. Effective and hassle-free security has been a dream of airports and airlines. The outbreaks of pandemics create another stepping stone in this direction, as most of the passengers are likely to avoid touching the surface and interact with agencies as barely as possible. In this scenario, automation, and the introduction of newer technologies in security will be crucial. The technology in the conceptual stage could soon morph into realities (Patel, 2018).

IV. CAPPS

The aviation security program comprises layered security strategy employed by security agencies to secure air traffic safety. The Security programs include a lot of measures that are snowballing day by day, due to the feebleness in the existing system. The chief objective of aviation security is to ensure those travelers who are known or potential threats to aviation are stopped before they or their baggage board an aircraft. To achieve near-perfect airline security, each passenger would have to be extensively questioned and have their luggage thoroughly searched. This would burden passengers by requiring a longer boarding time and would harm the airlines and airports by requiring additional staff and expense to conduct the extensive searches. To avoid the burden that searching every passenger would incur, profiling could be used selectively to target passengers for additional searches and questioning (Alberto V&Bogatz D,2004) In this aspect, the Computer Assisted Passenger Prescreening System (CAPPS) acts as an integral and indomitable role (Pike, 2011)

CAPPS is a limited, automated pre-screening system. It is designed to perform background checks on the passenger to determine their risk to civil aviation.It works by authenticating travelers' identities and performing risk assessments to detect individuals who may pose a terrorist-related threat or who have outstanding Federal or state warrants for crimes of violence. CAPPS is going to become a critical element in aviation security (Stevens, 2004). Under CAPPS, airlines will ask passengers for a slightly expanded amount of reservation information, including full name, date of birth, home address, and home telephone number. With this expanded information, the system will quickly verify the identity of the passenger and conduct a risk assessment utilizing commercially available data, and current intelligence information. The risk assessment will result in a recommended screening level, categorized as no

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risk, unknown or elevated risk, or high risk.Once the system has computed a traveler's risk score, it will send an encoded message to be printed on the boarding pass indicating the appropriate level of screening. In some cases proposes to sort all airline passengers into different categories by assigning a risk assessment score to each passenger. Like green for nominal, yellow to stimulus heightened security procedures, and red for those judged to pose an acute danger, which would be referred to law enforcement for possible arrest. Eventually, the information relevant to the appropriate screening process is planned to be transmitted directly to screeners at security checkpoints(Unknown, 2021). In other words, a computer-assisted passenger screening system selects the passengers whose baggage and passenger themselves must be subjected to additional security measures. CAPPS an enriched system to confirm the identities of passengers and to identify terrorist or persons with terrorist connections before they can board. In the rare instances, where a particular traveler has been identified as having known or suspected links to terrorism or has an outstanding warrant for a crime of violence, appropriate law enforcement officers will be notified.

V. HOW CAPPS WORKS

Although it is uncertain the criterion upon which a CAPPS profile is created, some elements of the system are known. CAPPS considers the method of payment for an airline ticket (i.e., cash or credit); the timing of purchase (i.e., immediately before departure or in advance); the identity of travelers, including who, if anybody, the passenger is traveling with; the activity at the destination, including whether the passenger intends to rent a car; the flight itinerary, including where the flight originates and its ultimate destination; the passenger's specific travel plans, including ultimate destination when different from the flight upon which the traveler is aboard; and whether the flight is the round trip or one-way. A traveler identified by CAPPS as a selectee is subject to secondary screeningand his baggage also undergo additional screening(Timothy M. Ravich, 2005).

PROCEED THROUGH FOUR STEPS:

i.Collection of information:- In the passenger reservation, every passenger has to provide some fundamental information like the passenger's full name, address, phone number, and date of birth.

ii. **Authentication** ***check:-***Security agencies will send all this information to commercial data services — data aggregators. The commercial data services will return to the security agencies with an authentication score intended to indicate a confidence level in that passenger's identity.

***iii. Risk assessment score*:-**Security agencies will run the passenger through a risk assessment function that involves unknown secret law enforcement, intelligence, or other government databases. As a result of this process — based on both secret data and secret criteria for evaluating that data — each passenger will be given a score measuring their risk to passenger or aviation security. Each person will be scored as high, low, or unknown risk.

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iv. Action at the airport:-Each passenger's risk score would then be forwarded to security personnel at the airport. Law enforcement authorities would be notified if passengers receive a high-risk assessment. Those who are score unknown would be subjected to heightened scrutiny and those who have a low score would pass through the ordinary airport screening process(Unknown, 2021).

VI. CHALLENGES FOR IMPLEMENTATION

i. Privacy concerns.

The biggest challenges before the government for the implementation of CAPPS is all dressed up the privacy concern and freedom. Most of the people vociferously oppose the CAPPS saying that it is highly intrusive and poses an enormous threat to the freedom and privacy of an individual. Passengers feel that their personnel data may be shared with other agencies for different purposes which they may be clueless about.

ii. Target less-affluent people.

Another concern raised against the CAPPS is that. It may target less-affluent people, those with bad credit ratings or no credit history at all. Besides, it is too difficult for the citizens, who because of their age, low income, or other factors do not have sufficient records to have their identities verified.

iii. Passengers Judged In Secret.

CAPPS generates the passenger's risk score by analyzing different data. That score will be based on information from sources that will include shadow intelligence and law enforcement databases, and any other data sources that the security agencies decides it would like to collect about the passenger. CAPPS would involve the construction of an extraordinary infrastructure for conducting background checks on passengers when they fly, and making judgments about how risky each is that all in secret. CAPPS would use information sources that are never disclosed to fliers or the public, or subject to public oversight and control, and analyze that information using criteria that are also never disclosed or subject to public oversight(Elias, 2005).

iv. No Notification, No Correction, No Appeal.

Since the security evaluations through CAPPS are completely secret, individuals singled out by the program will have no way of knowing why, they have been targeted. They will not know if they are the victim of the widespread inaccuracies that riddle in the databases, and will have no way to correct such errors if they are. They will have no way of knowing if they have been falsely accused of wrongdoing by someone, or have been discriminated against because of their religion, race, ethnic origin or political beliefs.

ISSN PRINT 2319 1775 Online 2320 7876
Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 12 , 2022

v. Accuracy Of The Databases:-

Another challenge for the implementation of CAPPS is determining and verified the accuracy of the databases used. Security measures should always be implemented in a non-discriminatory manner. Individuals should not be subjected to intrusive searches or questioning based on their perceived or actual race, ethnic origin, and religion or based on proxies for such characteristics. Security measures are determined to be genuinely effective. Opponents of profiling claim that profiling may be an ineffective security measures that may result in illegal discrimination, which should not be there(Unknown, 2021).

vi. Abuse and fear of unauthorized access:-

Passengers are expressing their great concern over the outflow andmishandling of information about them which collected for CAPPS. A comprehensive and exhaustive system should be in place to secure the data about the passengers and curtail the opportunities for misuse and protect the entire system from unauthorized access. Information from files about those individuals could also be shared with other government agencies at the federal, state, and local levels, as well as with intelligence agencies and with foreign governments and international agencies. All of which could be used for many purposes, including employment decisions and granting governments benefits. The information about the passengers should be preferable with the government as some profiling system critics argue may include information contained in untrustworthy commercial databases having nothing to do with airline travel(Timothy M. Ravich, 2005)

vii. Need for international cooperation:-

For the successful implementation CAPPS internationally, demands strong international cooperation among the member countries. All the member countries come together and should be liberal to share the secret data that they have to assess the security threat emanating from the international passengers. Lacking worldwide teamwork in collecting and sharing the passengers data, will not expand the program beyond its original purpose.

viii. High Cost:-

The cost for implementation of CAPPS will likely be high due to the expense of sophisticated profiling systems. It needs to reconfigure existing airline and travel agents' systems. Cutting-edge technologies for the maintenance and transmission of data that CAPP's necessities will be in place for the successful execution(Alberto V&Bogatz D,2004)

ADVANTAGES

***i. A stronger prevention system*:-** CAPPS will definitely provide a more reliable and dependable screening result than the current screening system. Even though the current system contains profiling of the passengers, it is limited to a certain extent only. CAPPS stretches a comprehensive screening of the passengers and seeks to authenticate a

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passenger's a comprehensive screening of the passenger and seeks to authenticate a passenger's identity and conduct a risk assessment. This information and updated intelligence allow the agencies to understand CAPPS stretches a comprehensive screening of the passengers and seeks to authenticate a passenger's identity and conduct a this information and updated intelligence allow the agencies to understand the dynamic of threat and by this means can beef up the security (Pike, 2011)

ii. ***Shorter waits at checkpoints:-***Presently it is common scene in the airport that passenger congregate at the security checkpoints, eagerly waiting for their turn for security clearance. This advanced technology definitely reduces the gathering at security checkpoints as the system reducing the number of selectees requiring additional screening. CAPPS will help speed up the security clearance of the passenger by categorized the screening process. This evidently reduces the waiting time of the majority of passengers(Pike, 2011)

iii. ***Focus for resources:-*** CAPPS identifies the potential threat for civil aviation. This enables the security agencies to allocate the screening resources and to adapt other security measures. CAPPS will enable the security agencies to focus their resources and their proper utilization such as the air marshals.This provides and supplements additional security methods if any of the pre-embarkation security checks failed.

iv. ***Increase Passenger Experience:-*** The fundamental idea of CAPPS is give more attention and scrutiny to the high risk passengers simultaneously reducing the hassle-free movement for low risk travelers.The superior advantage of the system is that only a small percentage of passengers will require additional and thorough screening at the security checkpoint which was notified by CAPPS. The majority of travelers who will be genuine go through the normal screening process. Since CAPPS will streamline the airport check-in security process, it increases overall passengers' convenience at the airport. The greater experience of the passengers at the airport accelerates the passengers' inflow in the civil aviation. As we see in the present system , where all passengers are undergoing strict and heightened security procedures which may alienate the innocent passengers to stay away from the air voyage.

v. ***Increase the scope:-*** Initially, the government can focus only on searching for foreign terrorists. But later it can expand to include domestic terrorists and violent criminals. The definition of domestic terrorism is being steadily expanded far beyond the everyday meaning, potentially encompassing political protesters and - even suspects in the war on drugs. It can also include in the latter stage financial fraudsters and others who try to escape from the countries or dodge the law enforcement agencies.

vi. ***Increase the efficiency of Security personnel:-*** Modern deregulated air travel is more democratic and accessible. Today, anybody, from anywhere, can fly commercially. This

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freedom attracts more people to opt for fair travel on other means. This has been complicated and increases the burden on the security agencies' manifold. The Computer –assisted passenger profiling system distinguishes and discriminates the risk and non-risk passengers. This certainly supports security personnel to focus more on high-risk passengers rather than non-risk passengers. This selected through screening system certainly increases the efficacy of the security personnel as presently they are checking all passengers in the same approach(Timothy M. Ravich, 2005).

X. EFFECTIVENESS

i. ***Identity Theft: -*** Even a known, wanted terrorist could sail right through this system simply by committing identity theft which as we all know is all too easy today by obtaining false documents and identity cards. For example, such a terrorist might present a driver's license with their own photograph, but the name, address, phone number, date of birth, and other details of an innocent person.

ii. ***Error Rate:***-Even a tiny error rate in the system would create huge problems. Each year, millions fly, many of them are more than once. CAPPS would check every one of those transactions. Even if we assume an unrealistic accuracy rate of 99.9%, mistakes will be made on approximately one million transactions, and 100,000 separate individuals. Those mistakes will result in not only a lot of innocent people coming under suspicion — or worse — but will make it extremely hard to find the handful of real terrorists amid the ocean of false positives.

iii. ***Never-ending Attempt:-*** Over time the government will seek to add more and more data sources to its background checks in a never-ending attempt to detect terrorists. Mostly the government has the upper hand in the law-making and adds all manner of new data sources into the program. Besides, there would be no public notification or oversight over those sources.

iv. ***Erase the Data:-*** The data of passengers who were marked as non-threatening, erased all their data at the end of the trip. This process will increase the efficiency of the system and rule out the possibility to figure out the leakage and sharing of data for unauthorized agencies(Bradford, 2019)

XI. CONCLUSION

Government and security agencies always strive to improve the efficiency of airport security screening and passenger convenience. CAPPS system is a big stride in this direction which attempts to identify potential terrorists through the use of different profiling techniques so that security personnel can focus the bulk of their attention on high risk individuals (Chakrabarti S, 2002). CAPPS will improve aviation security because screening decision will be more closely aligned with current intelligence information and threat levels. However, every passenger still

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will have to walk through metal detectors and put their carry-ons on X-ray conveyors. It can be said that CAPPS would be the centerpiece of a system to scan for potential terrorists by instantly checking every domestic traveler's credit history, arrest record, and property tax data. Even though concerns about the accuracy of data, abuse, preventing unauthorized access, international cooperation, managing expansion of the system, and preventing identity theft are understandable. But CAPPS is being designed to serve our national security and if these apprehension addressed very well then it will be a big boost for aviation security (Rabkin, 2004). Additionally, it is undeniable that the public will come to have a higher comfort level in air travel (Delio, 2003). Attempts are on the anvil to protect individual's privacy and other prickly issues. Most of the airport security chiefs welcome the CAPPS, as it will streamline the airport check-in security process. Furthermore, the majority of the passengers are in favors of CAPPS as it not only increases the security but also their experience in the air travel. Eventually, the aim of all security agencies including airlines and the government is to make sure 9/11 never happens again. Most of the bonafide and genuine passengers who have nothing to hide are ready to give up a little privacy so that terrorists would never attack again. It is anticipated that CAPPS will significantly improve the security of air travel. It is imperious anti-terrorism measures are necessary to protect not just the freedoms of passengers, but their very lives(Timothy M. Ravich, 2005).

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