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AGE VERIFICATION THROUGH UIDAI & BIOMETRIC AUTHENTICATION

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ABSTRACT:

At the heart of the debate over age verification requirements for social networking lie the same concern that have motivated previous internet regulatory initiatives: underage access to objectionable material and fears about child predators. However an age verification requirement could have many unintended consequences involving privacy and first amendment issues. Since most websites today contain some aspect of age restricted contents which minors are not allowed to know and would have bad effect on them. Logistical issues include for age restricted sites minors would need for verification of identity and age which could be easily falsified in the online environment. Consequently, children use fake identity, age and even gender to enter these social networking sites. This is a great field of concern towards the future of minors. Using government issued identification like aadhar card UIDAI can solve this problem by using biometric authentication system. This can prevent the minors to enter in age or gender restricted social site by fake identity.

Keywords *– Aadhar card UIDAI, Age Verification, Biometric Authentication, fake identity, Social networking.*

1. INTRODUCTION*:*

Today, social networking websites like Facebook and MySpace are some of the most visited websites on the Internet. Minors have played a significant role in the popularity and success of social networking. With children having such an active presence on these types of sites, parents and legislators alike are concerned about the child's online safety[1]. A common suggestion is age verification. Ideally, age verification would exclude users over a specified age or under a specified age. However, age verification for social networking sites has its flaws. In Adam Thierer's article, "Social Networking and Age Verification: Many Hard Questions; No Easy Solutions" he discusses the issue of children's online safety. Several studies have showed that children on social media platforms are more vulnerable to online predators than the grown-ups[4]. While no specific reports are available on how many under age users in India are on social media, an Ofcom annual survey in UK, published in February, found 18% of children under the age of 11 are registered on various social media accounts despite the existence of minimum age limits on them. This shows how easily children are fooling these platforms. Most social media platforms including Facebook, Instagram, TikTok and Twitter, in their terms of use, require users to be at least 13 years old to use their services. TikTok has this interesting provision where under 13 years old can be allowed if they have the consent of a parent or legal guardian. However, it doesn't specify how exactly it

can be done. In April, TikTok was temporarily banned from Play Store and App Store by Madras High Court for containing explicit content and encouraging pornography[2]. While the ban was lifted, the platform continues to be surrounded in controversy.The tragic cases of Molly Russell and Sophie Moss, two teenage girls who took their own lives after viewing content related to self-harm on Facebook and Instagram, underline the appalling potential consequences of unfettered youth access to social media. It is perhaps unsurprising that when surveyed 1,500 parents about internet safety and age verification, we found that social media sites came second only to those containing pornographic material in terms of causing concern to parents; 71% of respondents cited such fears[7]. The question is – how can these risks best be alleviated?

Fig. 1. Age restriction sites

The onus is now on those providers to take a demonstrable and proactive approach in delivering such protections – and a more sophisticated approach to age verification would be a great place to start. Biometrics seems an attractive alternative at first glance since pre-adolescent minors are smaller than adults, by and large, and this can easily be measured, especially as modern devices now routinely incorporate the requisite sensors. Another even more invasive solution is that of verifying identity by cross-referencing customer information such as name and address, date of birth with information held by other vendors or governments. Some Other proposals suggest sites seek parental permission or contact a child's school for verification of age, which can be easily circumvented and could put undue burden and costs on schools. Even with these measures, popular networking sites may in turn be pushed offshore, out of reach of US laws[3]. Policymakers should not present age verification mandates as a comprehensive solution that could provide a false sense of security for both parents and their minor children who use social networking websites. Asking for age at the time of creating an account might seem reassuring to some, but in practice, it won't be able to prevent children under 13 from creating an account[8]. Providing false age information on social media is very common among children. Most social media platform do not have a secondary mechanism in place to verify whether the age related information is true or not and these policies are in place to only save their neck. Using some sort of physical form of verification such as some form of school ID or government ID can help. Duggal agrees, there must be some kind of physical world verification element in this exercise. A government ID is a good strategy but the chances of using fake IDs cannot be ruled out.

This paper focus on this topic of age verification by using biometric authentication through aadhar card, UIDAI. As we konow that about 95% of Indian population have their aadhar card issued by the government[4]. So, it will be a better idea to verify users identity when they register for social networking sites which needs age or gender verification. When people apply for aadhar card, their biometrics like fingerprint and Iris scan of both eyes is taken. When the users visit for first time on these sites they need to register themselves. While registering they give their name, gender, age and other information. They also use to set password for future login. If in place of password they need to enter their biometrics for example, thumbprint, it can be used as users identity verification at the same time by verifying the details entered by him/her with the aadhar card details in the database. Here, we have assumed that these social sites have access to all India aadhar card UIDAI by government permission[7]. By using this technique, the social sites can check the user's age or gender when they register for the first time, without their knowledge. Hence, when minors try to register themselves by giving false details they will be easily identified by their aadhar card UIDAI as biometrics they use as password will be connected to the UIDAI database. This makes the age or gender verification easy and the children will be safe from using social sites like pornography, gambling and so on, which can destroy their future[5]. We have taken an example of banking system for age verification to explain this process.

Fig 2. Thumbprint impression by biometric authentication

2. Methodology:

The hardware required for this project are:

Fingerprint sensor R305

Aurduino Uno

Connceting wires (male to female)

USB wire for aurduino uno and system connection

As we are explaining this taking an example of banking system, the modules included in this are:

2.1 Registration: Here, the new users register themselves at first time. During registration he/she has to enter all the details and their age/gender is verified by the UIDAI database through the thumbprint they enter as password.

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2.2 Login: In this module, the registered user have their own account page and they can credit, debit, check transaction history and get help if they stuck somewhere.

2.2.1 Credit: In this submodule, the account holder can add money to his account.

2.2.2 Debit: In this submodule, the account holder can debit money from his account.

2.2.3 Transcation History: here, the user can check transcation history of his account.

2.4 Help: Here, the user can get help; how to use this application.

2.4 About: Here, the information about the application and its creator is given.

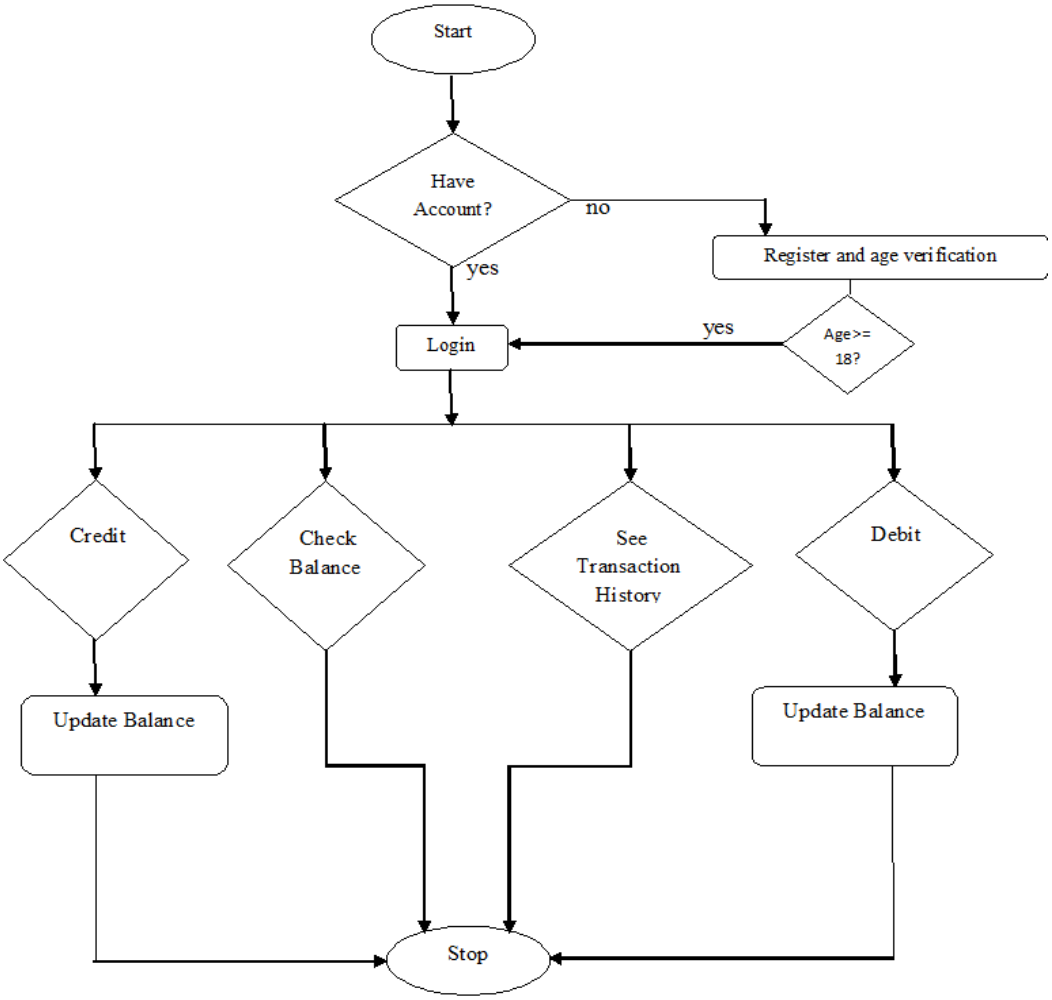

Fig.3. FlowChart on Banking System Project

3. Characteristics:

This project is made to signify and cure the problem of age verification. Following are the characteristics of the system:

3.1 This project gives a secured technique to verify age or gender of users at the time of registration on any social media.

3.2 By using this technique we can restrict minors to attract towards the sites like gambling, pornography which are harmful for their future.

3.3 It uses thumbprint biometrics as password for registration of users which makes it more secured as compared to the sites on the internet[6].

3.4 In this project, aadhar card UIDAI is used for verifying the details of the users. We have assumed that the databse of UIDAI is available to this project by government permission.

3.5 This project used auduino uno to connect to the fingerprint sensor R305 through connecting wires and other harwares and softwares are used for maintenance[9].

3.6 Biometrics based security, such as fingerprint authentication, is proven to be both more secure and convenient than passwords and fingerprint is becoming common feature in smartphones, tablets and PCs.

3.7 In this project, banking system, otp generation facility is available during registration, credit and debit for security purpose through email and sms on mobile of the users.

3.8 This project is useful in field of age restriction and security based application or social sites.

3.9 This technique verify the identity of users during registration without their prior knowledge, so the minors get trapped as they don't know about the age verification.

3.10 When minors try to enter fake age or gender they will be easily identified by their government id; UIDAI, and hence age restriction works here.

4. Limitations:

Although, this technique is safe for use and useful in age restrictions but it has some limitations too. They are:

4.1 It cannot recognize the minors/users that don't have aadhar UIDAI.

4.2 It can create an issue of privacy concern as the users identity card is being used for verification.

4.3 As in this project, fingerprint is used as password, the authentication system only recognizes traits that were entered and fail to recognize the user if their physical traits change even the slightest, like a burnt or damaged finger.

4.4 The users would not be able to register or login if they don't have device containing biometric facility.

4.5 Hacking is an underlying cyber threft, which means that hackers can easily manipulate stolen biometrics data and create fake positives.

4.6 Age restrictions and identity verifications give bad impacts on minor's rights[7]. They start thinking that their privacy and rights are being stolen from them.

4.7 In this project, banking system the minors would not be allowed to open their account which is a big concern as they have right to have their personal or joint account.

4.8 Registering through biometrics like fingerprint is somewhat time taking and frustrating.

4.9 Some people don't want to disclose their age or gender. This becomes a concern for them to disclose their identity without their prior knowledge[10].

4.10 Age restriction is very useful for the sites which are not made for minors but it becomes very difficult and useless for other social sites.

5. Future Scope:

In future, this project can work as a better technique to restrict minors. Following are the scope of this project:

5.1 This project can be used in different social media and internet platforms for age restrictions and gender verifications where minors are not allowed to discover.

5.2 This technique can be further used for document and identity verification of users or customers for security purpose in different internet sites and blogs.

5.3 In this project, banking system, the minors can also make personal account with their parental permission or any joint account with their parents.

5.4 This project can be further made secured that hackers or cyber threats cannot attack on the site or database and take useful information of users.

5.5 This technique can be made so intelligent in future that it can recognize the real user despite of any physical appearance in them like any burn or damaged finger.

5.6 Biometrics is a very secured but it can be falsified by hackers[8]. So in future, it can be made perfect so that no hacker can make duplicate of biometrics data.

5.7 Privacy on the sites using UIDAI or aadhar card for verification can be increased.

5.8 Minors can be restricted to use social sites which can harm them by this technique. It will be very useful to their future and their parents concern will be cleared.

6. Acknowledgement

This project, Banking System with Biometric Authentication is made to increase security level and restrict minors to register themselves or use it. In this project, users are asked to enter their details at the time of registration and set a password through fingerprint. This details are verified by the UIDAI database details of users identity card (aadhar card) that is provided by the government (assumed) permission. If the age of the user is below 18 he cannot be allowed to register himself as he will be in minor category. Hence, age restrictions and verification works here. In today technical world, the minors are becoming intelligent and making internet fool by entering fake age details and registering them[9]. The social sites like gambling, pornography are great attraction for the minors but they have age restrictions and minors fool them by entering false information. This is making internet and children both future in dark. So, to solve this problem age verification through biometric authentication and using UIDAI is a better technique which is proposed as an example in this project, banking system with biometric authentication.

7. Conclusion

This research paper focuses on the problem of age restriction and verification. As in many social sites the minors are not allowed to discover but they make them fool by entering false details, it becomes important to make strict restriction techniques[10]. This problem is a great concern in this technical world where these age restricted sites are becoming center of attraction on the internet. Government has banned many of these sites but then also they are available on the black side of the internet wher minors can enter easily. This is making bad

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affect on future of technical world and children. Hence, this paper gives a better technique to restrict minors from using these sites by using biometric authentication and UIDAI verification.

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