ISSN: 2454-9940

INTERNATIONAL JOURNAL OF APPLIED SCIENCE ENGINEERING AND MANAGEMENT

E-Mail :
editor.ijasem@gmail.com
editor@ijasem.org

www.ijasem.org

INTERNATIONAL JOURNAL OF APPLIED SCIENCE ENGINEERING AND MANAGEMENT

ISSN2454-9940

www.ijasem.org

Vol 18, Issue 1, 2024

SMART VOTING SYSTEM SUPPORT THROUGH FACIAL RECOGNITION

Suresh Ballala Professor, Department Of Data Science, SICET, Hyderabad

A.Vamshi Bharath Reddy, G.Srihitha, K.Rohith, P.Madhav, B.Bhanu Prakash

UG Student, Department Of Data Science, SICET, Hyderabad

Abstract

This paper uses a new authentication tool that uses voter facial recognition in online voting. T here are currently two electoral systems in India. These are secret ballot and Electronic Votin g Machines (EVM), but both methods have some limitations or disadvantages. India is yet to implement online voting. The current voting system is also not secure. Voters must go to a se parate location, such as a polling place, and make an appointment to vote, so many do not hav e time to vote. Voters who do not have the right to vote may also vote fraudulently, which ca n cause many problems. So we need to find a very useful or useful voting or method for votin g in this project. In our approach, we set three levels of security during voting. The first level is unique identification number (UID) verification, the second level is voter identification nu mber (EID), and the third level is face or facial recognition. With the new demands of each v oter, the security level of our system has been greatly improved. Improve the user authenticati on process by adding facial authentication to the application, which will verify whether a part icular user is an authenticated user.

Introduction

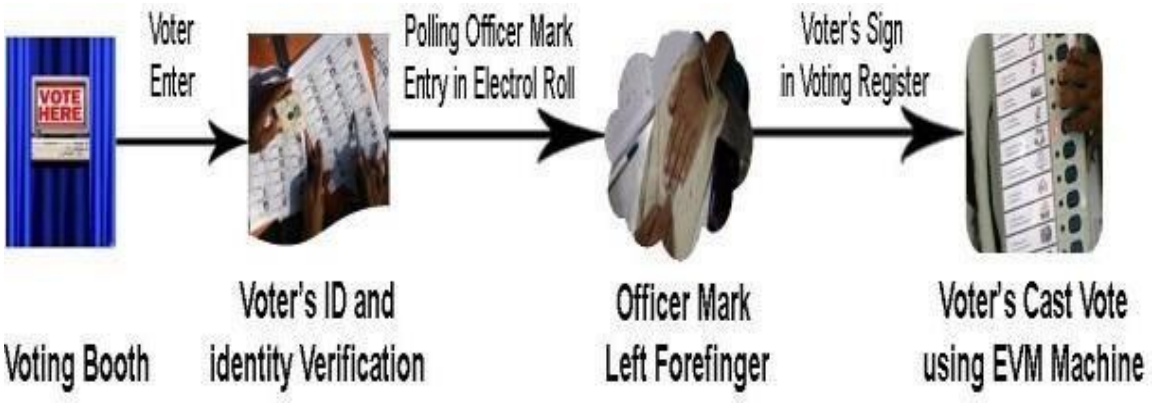
Today, two methods are used to vote in India. [1] The first method is secret ballot, which uses many formats [2], while the second method is EVM (Electronic Voting Machine), which has been used since 2003. It is safer than currently existing machines. In this project, facial detec tion and recognition techniques are used to identify the real person. Our plan uses three levels of verification for voters. Commission Identification Number) is correct, you must select Lev el 3 security, which is the main security level where the system now identifies the actual vote r's face from the data in the facial photo provided by the Electoral Commission. If the photo matches the voter's image on file, the voter can vote in the election. Anyone can vote for othe rs using a voting card, but here we have created a safer voting method than the current system

INTERNATIONAL JOURNAL OF APPLIED SCIENCE ENGINEERING AND MANAGEMENT

ISSN2454-9940

www.ijasem.org

Vol 18, Issue 1, 2024



3. Important Events:-

In the current election, machine ballet [3] was used showing the symbols of various political parties. Voting is done when we press the button with the symbol of the social organization (party). In the current system, the possibility of fake votes is higher. Voters can use fake votin g cards to vote, which can cause problems. In the current system, voters have to travel long di stances to reach the ballot boxes. That's why we need a good way to detect fake voters while voting. Therefore,Figure 1 Voting Process Exit ScenarioFacial authentication is used to identi fy the correct person and ensure that the system works on the internet and helps people vote f rom where they are. br> 4. Disclosure Process:We are using three different types of security i n this projectLevel 1:-

Unique Identification Number (UID) [4]. The system will request a unique ID from the voter . Login information is verified against information provided by the Election Commission. [5]I n the second stage of verification, the voter must enter his Electoral Board identification num ber or voter registration number. The login ID number is verified with information provided b y the Election Commission. Facial images are taken from data provided by the Election Com mission.is used to capture changes in a collection of face images, and this data is used to enco de the images of each face. The coded image of each face is then compared to the image of th e entire face. The eigensurfaces themselves form the basis set for all graphs used to construct the variance matrix. The small size of the resulting base image is used to represent the origina l training image created to reduce dimensionality. Classification is done by comparing how th e base set represents the face. The space is defined by "eigenfaces", which are the eigenvector s of a set of faces. Set up and calculate the eigenfaces that define the eigenspace (using PCA projection). It is classified as known or unknown.

Classification using nearest neighbors

Experiments and results

The information used here comes from the ORL face database. Profiles of 16 users with 10 vi ews per person.

5. Comparison of two systems:-

Here we can say that our offer is safer than the current offer. We see that there is no security l evel in the current system and anyone can cast a fake vote using their voting card. However, we see that we use three levels of security in our approach. If the voter cannot pass the securit y level, he cannot vote.

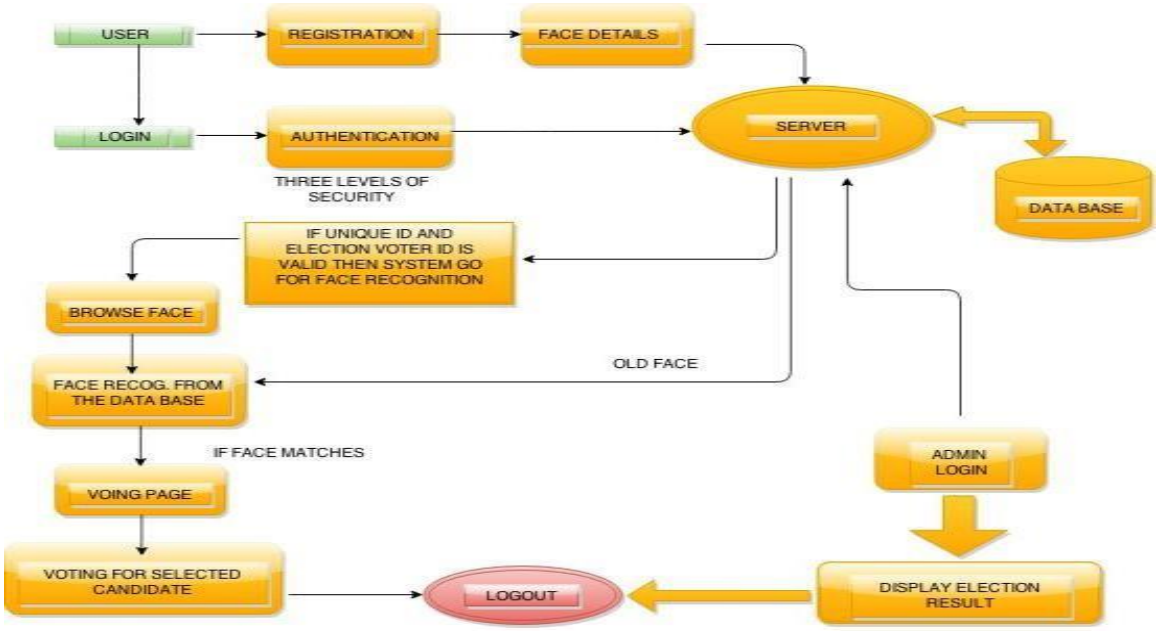
INTERNATIONAL JOURNAL OF APPLIED SCIENCE ENGINEERING AND MANAGEMENT

ISSN2454-9940

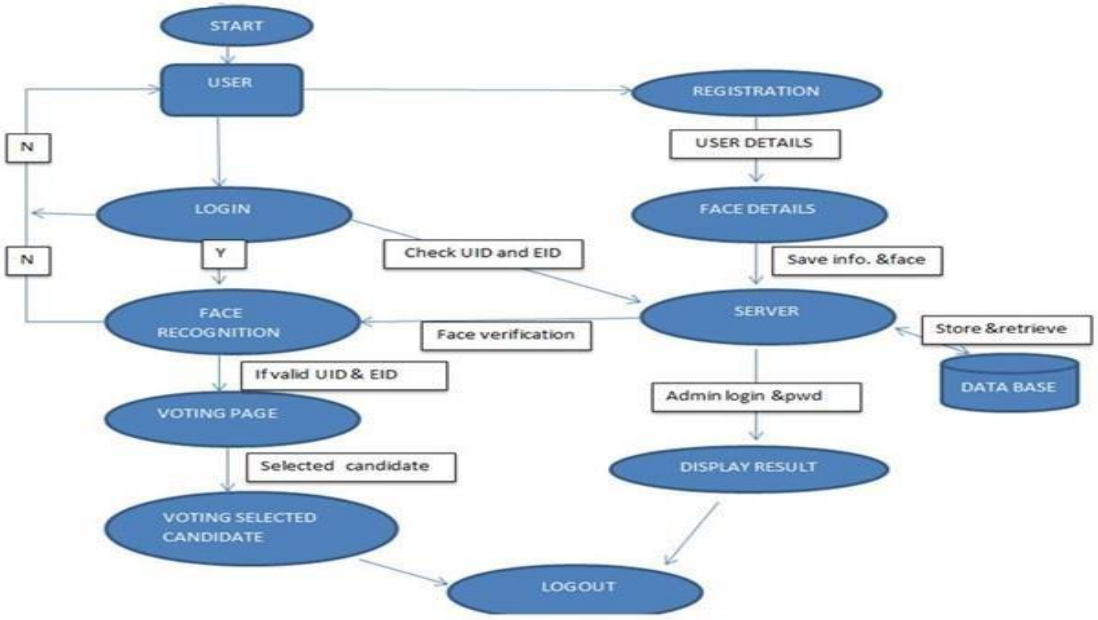
www.ijasem.org

Vol 18, Issue 1, 2024

SCOPE: -



1. Highly secured because in this project we have to use face recognition [7]. And face comparison. Tech. so false user can't give votes.
2. We can access result (counting) faster than existing system. Because ballet system [8] takes much more time for counting process.
3. Online voting system increase voting percentage in India. Because lots of people don't give vote. they think that the voting process is to lengthy but in our approach any one can give vote from home easily.



I). All new users in India must first register to vote. During registration, the user's face is captured using the webcam and the pattern of the face is stored in the server database for security purposes. We will use three levels of security during the election; the first level is unique authentication, the second level is voting, and the third level is facial recognition. The system will check whether the unique ID and voter ID entered by the voter are correct. If the unique ID or voter ID is correct, the system will retrieve the voter's image and compare it with the corresponding image in the database or server. If the photo in the warehouse matches the voter's photo, he or she is allowed to vote. Seven). The voting page will have icons/buttons of all political parties, regardless of the party participating in the election. Voters can vote in elections. When the voter casts his/her vote, the voter ID is automatically displayed, so we can say that the voter can only vote. Only users authorized by the Election Commission will be able to log in to the counting table with a secure ID and password, and voting will continue if the ID and password are correct.

CONCLUSION: -

As we see that existing voting system has many defects such as lengthy process, time taking, not secure, bogus voting, no security level but now we can say that our approach is more useful and secure from the existing system. Since, we are using three level of security in this proposed system the false voters can be easily identified. The facial authentication technique is very much useful inidentifying the fraud voters, so we can avoid the bogus votes during election commission. The voters can cast their voting from anywhere by login to our proposed smart voting system through internet. As every operation is performed through internet connectivity so, it is one- time investment for government. Voters' location is not important but their voting is important. As data is stored in centralized repository so, data is accessible at any time as well as backup of the data is possible. Smart voting system provides updated result at each and every minute. Also requires less man power and resources. The database needs to be updated every year or before election so that new eligible citizens may be enrolled and those who are dead are removed from the voter list.

As we see, current elections have many disadvantages such as long process, time consuming, lack of security, fake votes, no security, but now we can say that our method is more. useful, more. Existing security systems. Since we use three levels of security in this process, fake voters can be easily detected. Facial authentication technology is very useful in detecting fraudulent voters so that we can prevent fraudulent votes during elections. Voters can vote from anywhere by logging into our smart voting system over the internet. It is an investment for the government as all work is done online. The location of the voters does not matter, but their votes do. Because data is stored in a central storage location, it can be accessed and retrieved at any time. Smart survey provides new results every minute. It also requires less manpower and resources. The database must be updated annually or before an election so that eligible citizens can be registered and deceased persons can be removed from the voter rolls

REFERENCES

Allen, I. E., & Seaman, J. (2008). ***Staying the course: Online education in the united states, 2008.*** ERIC.

Bambrick-Santoyo, P. (2010). ***Driven by data: A practical guide to improve instruction***. John Wiley & Sons.

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2023). ***lme4: Linear mixed-effects models using eigen and S4***. https://github.com/lme4/lme4/

Betebenner, D. W. (2021). ***randomNames: Generate random given and surnames***. https://CenterForAssessment.github.io/randomNames

Bransford, J. D., Brown, A. L., Cocking, R. R., et al. (2000). ***How people learn*** (Vol. 11). Washington, DC: National academy press.

Breiman, L. (2001). Random forests. ***Machine Learning***, ***45***(1), 5–32.

Bryan, J. (2017). ***Project-oriented workflow***. https://www.tidyverse.org/blog/2017/12/workflow-vs-script/

Bryan, J. (2019). ***Reproducible examples and the 'reprex' package***. https://community.rstudio.com/t/video-reproducible-examples-and-the-reprex-package/14732

Bryan, J. (2020). ***Happy git with r***. https://happygitwithr.com/

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). ***Learning to improve: How america's schools can get better at getting better***. Harvard Education Press.

Campaign, D. Q. (2018). ***Teachers see the power of data - but don't have the time to use it***. https://dataqualitycampaign.org/wp-content/uploads/2018/09/DQC_DataEmpowers-Infographic.pdf

Conway, D. (2010). The data science venn diagram. ***Drew Conway***, ***10***. http://drewconway.com/zia/2013/3/26/the-data-science-venn-diagram

Datnow, A., & Hubbard, L. (2015). Teachers' use of assessment data to inform instruction: Lessons from the past and prospects for the future. ***Teachers College Record***, ***117***(4), n4.

Dirksen, J. (2015). ***Design for how people learn***. New Riders.

Dweck, C. (2015). Carol dweck revisits the growth mindset. ***Education Week***, ***35***(5), 20–24.

Education Statistics U.S. Department of Education, N. C. for. (2019). Concentration of public school students eligible for free or reduced-price lunch. ***The Condition of Education 2019***. https://nces.ed.gov/fastfacts/display.asp?id=898

Elbers, B. (2020). ***Tidylog: Logging for dplyr and tidyr functions***. https://github.com/elbersb/tidylog/

Emdin, C. (2016). ***For white folks who teach in the hood... And the rest of y'all too: Reality pedagogy and urban education***. Beacon Press.

Estrellado, R. A., Bovee, E. A., Motsipak, J., Rosenberg, J. M., & Vel'asquez, I. C. (2019). ***Taylor and francis book proposal for data science in education***. https://github.com/data-edu/DSIEUR_support_files/blob/master/planning/T%26F%20Book%20Proposal%20for%20Data%20Science%20in%20Education.docx

Estrellado, R., Bovee, E., Mostipak, J., Rosenberg, J., & Vel'asquez, I. (2024). ***Dataedu: Package for data science in education using r***. https://github.com/data-edu/dataedu

Firke, S. (2023). ***Janitor: Simple tools for examining and cleaning dirty data***. https://github.com/sfirke/janitor

for Education Statistics, N. C. (2018). ***Public elementary/secondary school universe survey***. https://nces.ed.gov/programs/digest/d17/tables/dt17_204.10.asp?current=yes

Gelman, A., & Hill, J. (2006). ***Data analysis using regression and multilevel/hierarchical models***. Cambridge university press.

Grimm, K. J., Ram, N., & Estabrook, R. (2016). ***Growth modeling: Structural equation and multilevel modeling approaches***. Guilford Publications.

Hastie, T., Tibshirani, R., & Friedman, J. (2009). ***The elements of statistical learning: Data mining, inference, and prediction***. Springer Science & Business Media.

Hattie, J. (2012). ***Visible learning for teachers: Maximizing impact on learning***. Routledge.

Healy, K. (2019). ***Data visualization: A practical introduction***. Princeton University Press.

Hill, A. (2017). ***Up and running with blogdown***. https://alison.rbind.io/post/2017-06-12-up-and-running-with-blogdown/

Hirschberg, J., & Manning, C. D. (2015). Advances in natural language processing. ***Science***, ***349***(6245), 261–266.

Ismay, C., & Kim, A. Y. (2019). ***Statistical inference via data science***. CRC Press.

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). ***An introduction to statistical learning*** (Vol. 112). Springer.

Jarvis, C. (2019). ***Creating calling***. HarperCollins.

Jordan, R. (2015). ***High-poverty schools undermine education for children of color***. https://www.urban.org/urban-wire/high-poverty-schools-undermine-education-children-color

Kahneman, D. (2011). ***Thinking fast and slow***.

Kearney, Michael W. (2016). Rtweet: Collecting twitter data. ***Comprehensive R Archive Network. Available at: Https://Cran. R-Project. Org/Package= Rtweet***.

Kearney, Michael W., Revilla Sancho, L., & Wickham, H. (2023). ***Rtweet: Collecting twitter data***. https://docs.ropensci.org/rtweet/

Kleon, A. (2012). ***Steal like an artist: 10 things nobody told you about being creative***. Workman Publishing.

Kozol, J. (2012). ***Savage inequalities: Children in america's schools***. Broadway Books.

Krist, C., Schwarz, C. V., & Reiser, B. J. (2019). Identifying essential epistemic heuristics for guiding mechanistic reasoning in science learning. ***Journal of the Learning Sciences***, ***28***(2), 160–205.

Kuhn, M. et al. (2008). Building predictive models in r using the caret package. ***Journal of Statistical Software***, ***28***(5), 1–26.

Kuhn, M. (2023). ***Caret: Classification and regression training***. https://github.com/topepo/caret/

Kurz, S. (2019). ***Statistical rethinking with brms, ggplot2, and the tidyverse***.