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IRIS: A Comprehensive Women Support App to Address Diverse Needs of Women

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Abstract: Women safety is a critical concern worldwide and leveraging technology to address. This issue is becoming increasingly imperative. This abstract introduces an innovative initiative focused on app development for women safety, the primary objective of this initiative is to harness the potential of a mobile application to enhance safety, security and well being of women in various setting.

Iris the comprehensive women support app is a beacon of empowerment and assistance for women in all works of life. This innovative application serves as a safety haven fostering a thriving online community where women can connect share experience and access a wealth of resources tailored to their unique needs.

This multi-faced application offers a range of essential features including Self-defence techniques, access to female driver numbers, information on the nearest police station and helpline number for immediate assistance. For moments of relaxation Iris includes mini games to help user unwind and destress. With its Holistic approach Iris aims to be and indispensable companion for women for steering safety, health, education and empowerment in their daily lives.

Keywords: Women Safety, Assistance, Empowerment, Security, Online Community, Helpline numbers.

I. INTRODUCTION

In today's quickly advancing scene, the advancement of portable applications has developed as a capable implies to address wide extend of needs and challenges. Among these, there is a compelling opportunity to make portable applications that particularly cater to the different and one of a helpful prerequisite of female. Such apps can enable and bolster female in different viewpoints of their lives, from wellbeing and wellness to career progression, security, and more. Engaging female through custom fitted portable apps can have a significant effect on their lives Additionally, applications adapted toward individual security can play a vital part in guaranteeing women's security, advertising highlights such as crisis alarms, and self-defense assets. These apps can give a sense of security in possibly helpless circumstances and offer assistance address the progressing concerns related to security and badgering.

II. LITERATURE SURVEY

1. The role of IoT in women's safety: a systematic literature review[1]

This study reviews IoT devices for women's safety, covering sensors, technology used, and machine learning algorithms from 2016 to 2022. It found that pulse-rate and pressure sensors are common, using GPS, GSM, and Raspberry Pi for alerts. Machine learning algorithms like logistic regression, hidden Markov, and decision trees are used threat detection. To improve effectiveness, there's a need for auto-activation of alerts with less human interaction. The study proposes a taxonomy, highlights gaps, and suggests combining sensors for better threat detection accuracy, Furthermore, the study identifies gaps f challenges in the usability of IoT devices for women's safety and suggests an architectural model for developing such devices. Finally, it underscores the importance of using combinations of so sensors to enhance threat detection accuracy and precision.

Features:

1) Systematic Literature Review: Conducted a comprehensive review of existing research on IoT-based women's safety devices.
2) Technologies and Features: Identified various technologies, sensors, and machine learning algorithms used in IoT- based women's safety devices.
3) Taxonomy: Created a classification system to categorize different aspects of these devices.

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Architectural Model:
Proposed a model for future IoT-based women's safety devices.

Reviewers and Consensus: Involved two independent reviewers and resolved disagreements through discussion.

Future Scope:

1) Advanced Technology: Integration of cutting-edge technologies and user-centric solutions.
2) Policy and Global Adoption: Consideration of regulatory frameworks and expanding device usage worldwide.
3) Device Improvement: The study highlights the limitations of existing devices.

Future scope involves improving these devices to enhance their effectiveness in protecting women from safety threats.

2. Development of an Artificial Intelligence Supported Hybrid Data Management Platform for Monitoring Depression and Anxiety symptoms in the Perinatal Period: Pilot- Scale study[2]

Machine learning is driving advances in science and industry, especially in healthcare. This study focuses on using performance-optimized algorithms to identify key questions about anxiety and depression in pregnant women, aiming for faster results with fewer questions. Additionally, it aims to create an instant remote prediction system for these conditions using Apache Spark's Big Data processing engine. The system, which uses the Naïve Bayes algorithm, achieves 90.8% accuracy and 81.71% precision, offering a faster and accurate alternative to traditional detection methods.

Features:

1) Perinatal Mental Health: Recognizes the importance of mental health during the perinatal period.
2) Need for Speedy Treatment: Highlights the need for faster diagnosis and treatment.
3) Hybrid Big Data Platform: Introduces a novel hybrid big data platform for instant diagnosis.
4) Feature Selection: Uses feature selection algorithms for quicker identification of mental health issues.
5) Effective Classifier: Identifies Naive Bayes Classifier as the most effective with 90.80% accuracy.
6) Apache Spark and Kafka: Utilizes Apache Spark and Kafka for real-time data processing

Future Scope:

1) Improved Algorithms: Future research can focus on refining feature selection algorithms for quicker and more accurate diagnosis.
2) Diverse Classifiers: Exploring diverse machine learning classifiers may lead to even better diagnostic accuracy.
3) Emerging Technologies: Integration of emerging technologies can enhance the hybrid big data platform's capabilities.

3. WHOT, a novel tool to assist women violence. A case study in the Brazilian Amazon[3]

Violence against women is a problem faced in several ways, in various societies; however, the introduction of computational tools is something still little explored in this confrontation. Thus, it is necessary to invest in researches that bring technological development closer to the prevention, discovery, and combat of this form of violence. This paper presents the WHOT that helps to build psycho-behavioral profiles of women victims of violence, based on three features:

i) recognition of facial expressions to infer emotions; ii) provision of digital questionnaires on intimate partner violence (IPV), adverse childhood experiences (ACE) and post-traumatic stress disorder(PTSD); and iii) generation of individual reports with cross-references of statistical analysis between the data obtained in each interview.

Features:

1) This study aims to demonstrate a tool that would allow the construction of profiles of women victims of violence.

2) The face of each interviewee was tracked using the Viola-Jones and CANDIDE-3 techniques and, combining FACS with Face Tracking (SDK), the tool was able to diagnose joy, sadness, anger, and surprise. The techniques used, therefore, proved to be efficient for the study that the authors proposed.

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3) The women were questioned in a confidential, reserved, and discreet way, which can increase the reliability of the data that the Participant reports.

Future Scope:

1) Tools like this needs improvement.

2) These tools need improvements so they can perform facial expression tracking and emotion interference using more refined techniques.

3) Future research may reveal differences the other populations may present. Thus, further adaptation maybe necessary in order to give WHOT a greater margin of accuracy.

4) A Systematic Review of Computer Science Solutions for Addressing Violence Against Women

III. SYSTEM APPROACH AND DESIGN

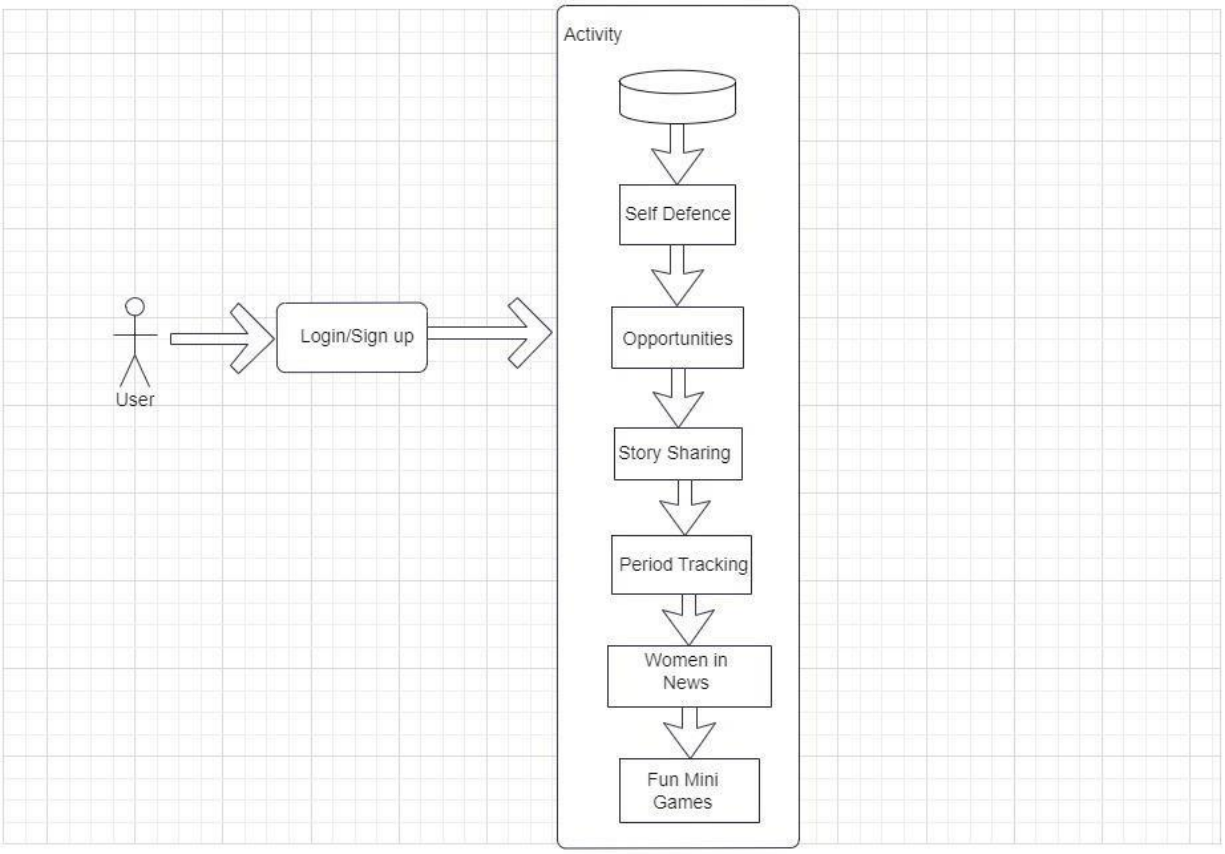
A. Problem Statement

Develop an all-inclusive mobile application aimed at addressing the diverse and evolving needs of women, providing solutions and resources for health, safety, empowerment, education, and community engagement.

B. Objective

- To address different website and mobile application to know the approach of proposed system.
- To prepare GUI with major functionality.
- To prepare database to hold different information.
- To measure performance of proposed system with other existing system.

C. System Architecture



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The system architecture diagram for the application depicts the following:

User Profile and Authentication: When a user creates their profile, the app collects basic information like name, email, and password. This data is securely stored in a user database

Self Defense Features: This could include tutorials, tips, and techniques for self-defense.

Opportunities: This feature might involve connecting users with job opportunities, educational programs, or community events. The architecture would include APIs to fetch and display relevant opportunities based on user preferences and location.

Story Sharing: Users can share their experiences, stories, and insights within the app.

Period Tracking: This feature allows users to track their menstrual cycle and related symptoms. User data should be stored securely and privately.

Women in News: This feature provides curated news articles and stories relevant to women's interests and issues

Fun Mini Games: Users can enjoy casual games within the app for entertainment.

Overall, the system architecture would comprise client-side components (mobile app interface), server-side components (backend services, databases), and integrations with third-party APIs for features like news aggregation and job opportunities. Security measures like encryption, authentication, and data privacy should be prioritized throughout the system design.

IV. CONCLUSION

In the end, the advancement of an application to address the assorted needs of women is not as it was an assuring try but moreover a significant step towards advancing sexual orientation balance and engaging female in different angles of their lives. By making a flexible stage that caters to the special challenges and goals of women, we can encourage their get to fundamental data, administrations, and bolster frameworks. Such an application has the potential to improve women's wellbeing, instruction, career openings, security, and in general quality of life. As we move forward, it is fundamental that we prioritize inclusivity, user-friendliness, and security to guarantee that women from all foundations can advantage from this innovation. With the right approach, collaboration, and progressing advancements, we can clear the way for a more evenhanded and enabled future for women around the world.

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