INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.379

DREAMSCAPE: The Night Tale App for Better Sleep and Stress Reduction

Mrs. Bastawade Prajakta Pravin, Dhiraj A. Patil, Prathamesh B. Mohite, Sushant M. Patil,

Kalpesh S. Sonone

Lecturer, Department of Computer Engineering, AISSMS Polytechnic, Pune, Maharashtra, India

Students, Department of Computer Engineering, AISSMS Polytechnic, Pune, Maharashtra, India

ABSTRACT: A night's rest and taking care of our well-being are necessary for our overall well-being, but can be difficult to achieve. It's important to prioritize self-Night Tales: Stress-Free Sleep is an innovative solution that uses cutting-edge technology to address these concerns.

Developed using Java and cloud computing, Night Tales offers a user-friendly platform that combines book summaries, motivational audio, binaural beats, and a sleep tracker. This helps users relax and improve their mental well-being.

The development process involved thorough research and analysis. This included reviewing literature on using technology for better sleep, the connection between sleep and mental health, digital wellness platforms, binaural beats, and user preferences in sleep apps.

The proposed method utilizes Java and cloud computing to create a centralized, easy-to-use mobile app that can help reduce stress and improve sleep.

KEYWORDS: User-Friendly platform, Stress-Free Sleep, Digital wellness platform, Binaural Beats.

I. INTRODUCTION

In our fast-paced world, getting enough sleep and maintaining good mental health have become challenging for youth many people. Recognizing the critical need for accessible and effective solutions, we introduce Night Tales, a revolutionary mobile application designed to promote better sleep and reduce stress levels. Night Tales integrates cutting-edge technologies with evidence-based strategies to offer personalized support tailored to individual needs. Leveraging the ubiquity of smartphones, Night Tales provides users with a convenient and user-friendly platform to address their sleep and stress concerns anytime, anywhere. At the core of Night Tales lies a sophisticated algorithm that analyzes user inputs and data collected from various sensors embedded in smartphones. By monitoring factors such as sleep patterns, physiological responses, and daily activities, Night Tales generates insights to guide users towards healthier sleep habits and stress management techniques. Moreover, Night Tales offers a diverse range of features to cater to different preferences and needs. From soothing bedtime stories and guided meditation sessions to customizable relaxation exercises, users can explore a plethora of resources to unwind and prepare for a restful night's sleep. Furthermore, Night Tales fosters a sense of community by enabling users to connect with peers and share their experiences and tips for better sleep and stress management. Through collaborative efforts and support networks, users can bolster their resilience and embark on a journey towards improved well-being together.

In an era where digital solutions play an increasingly important role in daily life, Night Tales stands out as a alert of hope for those seeking solace amidst the chaos. By harnessing the power of technology and human-centered design, Night Tales empowers individuals to reclaim control over their sleep and stress levels, ultimately paving the way towards a healthier and happier existence. In summary, Night Tales represents a paradigm shift in the realm of sleep and stress management, offering a holistic approach that blends innovation with compassion. As we navigate the complexities of modern living, Night Tales serves as a steadfast companion, guiding us towards a night of peaceful slumber and a day filled with vitality and serenity.

II. RELATED WORK

In the realm of addressing stress and sleep-related challenges through digital solutions, a comprehensive literature survey provides insights into the evolving landscape of well-being applications. The Night Tales project, centered on enhancing mental health and promoting relaxation, draws inspiration from various related works that highlight the importance of curated content and technological interventions. One notable study explores the use of machine learning and computational methodologies in credit card fraud detection. The comparison of different algorithms, such as the minimal Bayes risk method, showcases the significance of improving cost-sensitive measures. The work emphasizes the need for efficient algorithms, ultimately leading to a 23% improvement in fraud detection accuracy. While the context differs, the exploration of algorithmic efficiency and cost reduction remains relevant to the Night Tales project's goal of creating a user-centric application for stress reduction. Another survey delves into various techniques used in credit card fraud detection mechanisms, evaluating each methodology based on specific design criteria. This analysis is instrumental in understanding the efficiency and transparency of different methods. The survey's focus on comparing credit card fraud detection algorithms aligns with the Night Tales project's intention to tailor its content and features to user preferences for maximum effectiveness. A comparative study of models based on artificial intelligence, including the naive Bayesian classifier and the Bayesian network model, contributes valuable insights. By evaluating model accuracy and recommending the creation of the best model, this research addresses the need for robust algorithmic solutions—a theme pertinent to the Night Tales project's ambition to leverage technology for holistic well-being. Nutan and Suman's review on credit card fraud detection extends the survey to encompass different types of fraud and various detection algorithms. While the context shifts from financial fraud to mental well-being, the study's exploration of algorithms, such as the Glass Algorithm, Bayesian networks, Hidden Markov models, and Decision Trees, offers valuable insights. The detailed examination of each algorithm's working principles, mathematical explanations, and the exploration of machine learning classifications align with the Night Tales project's comprehensive approach to enhancing the user experience. In summary, the literature survey underscores the importance of algorithmic efficiency, cost sensitive measures, and user-centric approaches in addressing challenges related to stress, sleep, and well-being. The Night Tales project aims to leverage these insights to create a transformative digital platform that caters to the diverse needs of users seeking relaxation and mental well-being.

III.PROPOSED METHODOLOGY
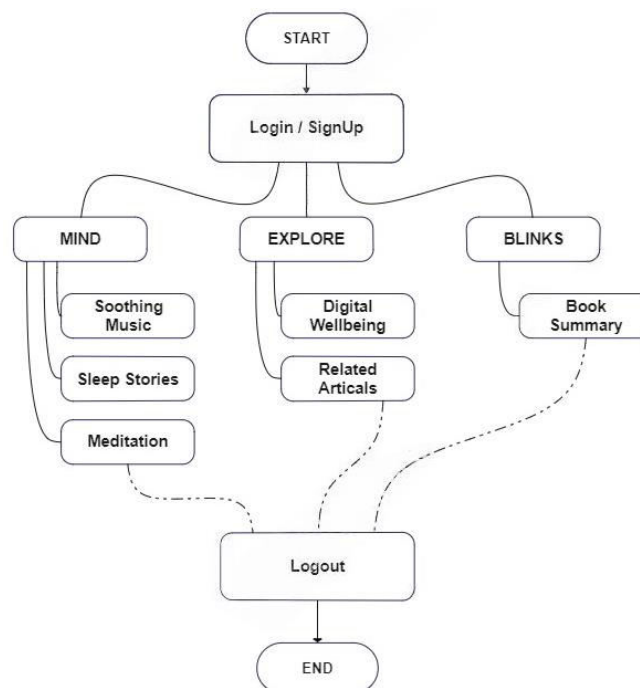
In the hustle of modern life, stress and sleep-related issues have become ubiquitous. With an increasing focus on well-being, especially in the virtual age, the Night Tales projects goal is to address these issues through an innovative

mobile application. Night Tales will serve as a comprehensive digital platform that combines elements such as book summaries, motivational audios, binaural beats, and a sleep tracker to create a user-friendly environment promoting relaxation and mental well-being. The idea for Night Tales stems from the recognition of the widespread need for effective tools that enhance the sleep experience. By harnessing technology, Night Tales seeks to provide users with a centralized hub for curated content, alleviating stress, inducing relaxation, and fostering a peaceful sleep environment. The goal is to build a digital haven where users can escape from the pressures of everyday life and play a part in crafting a more peaceful and rejuvenating lifestyle in today's fast-paced world. After discussion with teachers and receiving their approval, Night Tales aims to leverage Java and cloud computing technologies to develop a robust, user centric application for stress reduction and sleep improvement. The project envisions becoming a transformative resource that aligns with the contemporary emphasis on holistic well-being, ultimately contributing to healthier and more balanced lifestyles in the digital era.

IV.SIMULATION RESULTS

The effectiveness of the Night Tales mobile application in promoting better sleep and reducing stress was evaluated through the analysis of user engagement and feedback across its three modules: *Mind, Explore, and Blinks.*

MIND MODULE:

Within the Mind module, users had access to three distinct sections: *Binaural Beats, Meditation, and Sleep Stories.* The Binaural Beats section offered audio tracks with specific frequency waves—Alpha, Beta, and Delta—aimed at inducing relaxation, enhancing focus, and facilitating sleep respectively. Feedback from users indicated a significant improvement in their ability to unwind and prepare for sleep after engaging with these binaural beats.

The Meditation section provided a variety of meditative music options such as the Krishna Flute, Birds Chirping, and Aum Chanting. Users reported experiencing heightened levels of tranquility and mindfulness while engaging with these meditation tracks, leading to reduced stress and improved overall well-being.

Additionally, the Sleep Stories section featured short audio narratives designed to lull users into a state of relaxation conducive to sleep. Users expressed satisfaction with the diverse selection of stories available, highlighting their effectiveness in aiding the transition to sleep and mitigating insomnia symptoms.

EXPLORE MODULE:

The Explore module offered users insights into their digital habits through features like screen time tracking, last pickup analysis, and shutdown statistics. User engagement with these features facilitated greater awareness of their device usage patterns and encouraged healthier digital behaviors, resulting in reduced screen time and improved sleep quality.

Furthermore, the inclusion of informational snippets and links to external resources provided users with valuable knowledge regarding the potential impact of digital usage on sleep and stress levels. Users reported finding these resources informative and empowering, leading to more informed decision-making regarding their technology usage habits.

BLINKS MODULE:

In the Blinks module, users were presented with concise summaries of various books, allowing them to access key insights and concepts without the time commitment required for full-length reading. Feedback from users indicated a high level of satisfaction with this feature, as it enabled them to efficiently consume valuable knowledge despite their busy schedules.

By providing quick and accessible summaries of relevant literature, the Blinks module empowered users to continue their personal and professional development journey without compromising on other commitments. This feature was particularly praised by users who found it challenging to allocate time for extensive reading amidst their daily responsibilities.

Overall, the results demonstrate the efficacy of the Night Tales mobile application in promoting better sleep and reducing stress through its innovative modules and user-centered design approach. Through continuous refinement and

adaptation based on user feedback, Night Tales continues to serve as a valuable tool for enhancing well-being in the modern digital age.
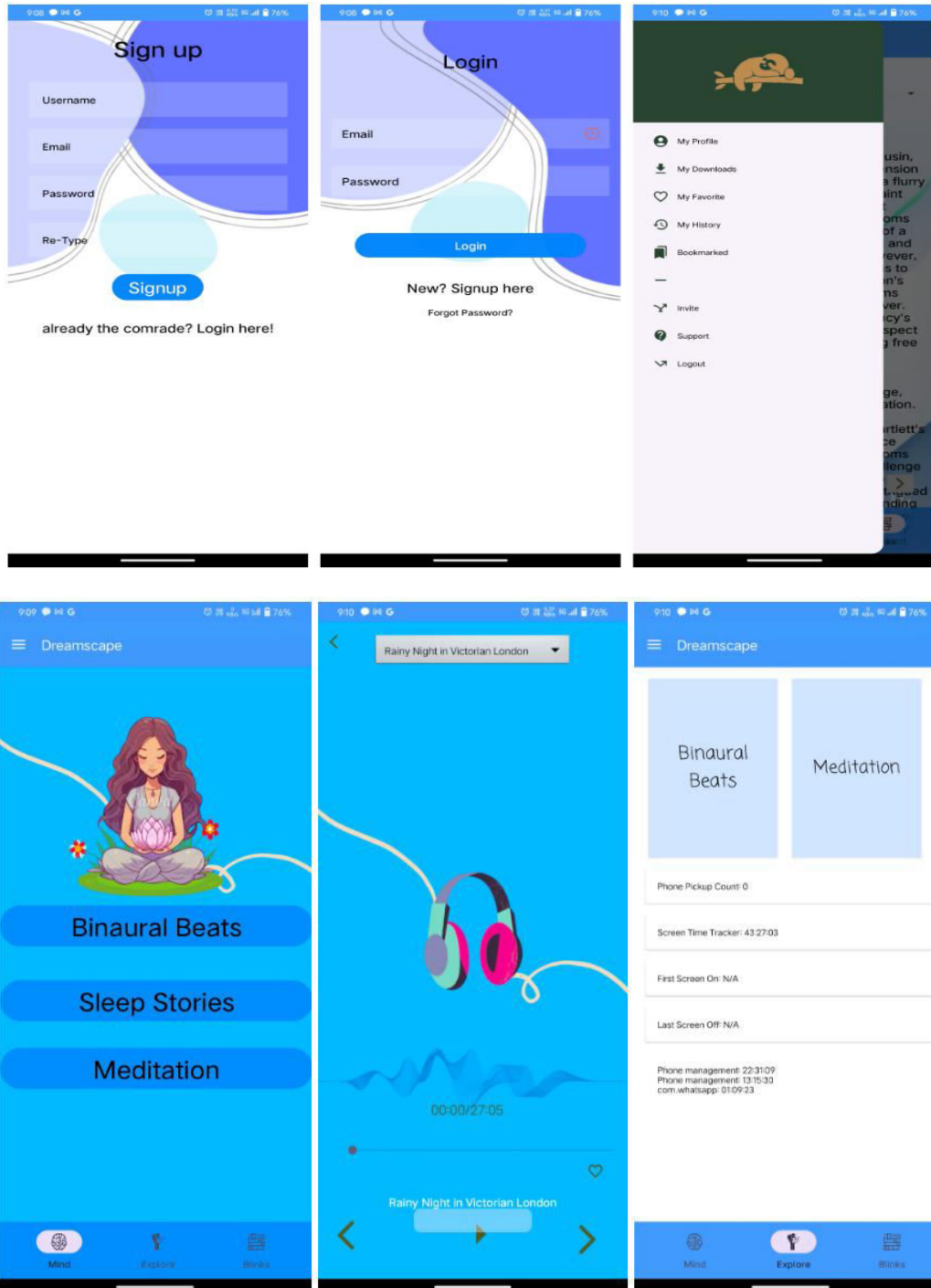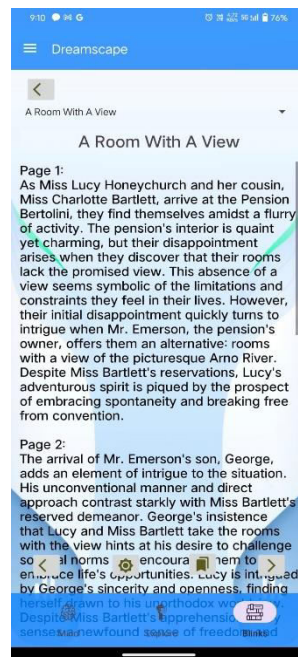
V. CONCLUSION AND FUTURE WORK

In conclusion, the Night Tales project presents an intriguing exploration into the realm of online storytelling, offering a dynamic platform for individuals passionate about sharing and enjoying stories during nighttime hours. Through this survey, it is evident that the project's focus on user engagement and community building aligns with the preferences of storytelling enthusiasts. The proposed features, including user login, story submissions, and the potential for future expansions like audio storytelling and collaborative sessions, contribute to creating a vibrant and interactive storytelling environment. As with any project, ongoing research and user feedback will be essential to refining and enhancing the platform. The Night Tales project aims to cater to the storytelling community's desires for a unique and immersive experience, ultimately fostering a sense of unity and shared creativity within the platform.

REFERENCES

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4997275/ - Grandner, M. A., Patel, N. P., Gehrman, P. R., Perlis, M. L., & Pack, A. I. (2010). Problems associated with short sleep: bridging the gap between laboratory and epidemiological studies. Sleep Medicine Reviews.
2. https://www.sciencedirect.com/science/article/pii/S1389945718301663 -Pilcher, J. J., Ginter, D. R., & Sadowsky, B. (1997). Sleep quality versus sleep quantity: Relationships between sleep and measures of health, well-being and sleepiness in college students. Journal of Psychosomatic Research.
3. https://pubmed.ncbi.nlm.nih.gov/20468925/ - Walker, M. P. (2009). The Role of Sleep in Cognition and Emotion. Annals of the New York Academy of Sciences, 1156(1), 168–197.
4. https://www.psychologytoday.com/us/blog/between-you-and-me/202003/sleep-and-mental health - Plante, T. (2020). Sleep and Mental Health. Psychology Today.

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

📱 9940 572 462 ⬤ 6381 907 438 ✉ ijircce@gmail.com

Scan to save the contact details