Application on Mental Health [Patch-UP]

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Abstract-- People tend to use different strategies to dissolve their romantic relationships. The factors predicting selection of breakup strategies, and especially personality factors, have received relatively little attention. All of these emotions can be perfectly normal after a romantic breakup—but if they lead to prolonged feelings of sadness and apathy, it might be a sign that something more serious is going on. Stressful life events such as a breakup or divorce can sometimes trigger prolonged and severe emotional distress. Experiencing depressive and other symptoms following the end of relationship is sometimes diagnosed as an adjustment disorder with depressed mood, also sometimes referred to as situational depression. Because these feelings with adjustment disorders can last six months to two years, it is important to understand the signs and symptoms so that you can find help and support if you need it. This paper explores the theme of mental health issues caused by the termination of a relationship and explains the process that uses user data to suggest resources to them according to their needs. The system also suggests therapists in the area and accordingly provide exercises for further improvement.

Indexed Terms-- Break-up, unmarried, divorce, relationship dissolution, commitment, cohabitation, depression

I. INTRODUCTION

The termination of a romantic relationship is a common, highly emotional, stressful, and even painful experience. Approximately 70% of college students have experienced a romantic relationship that ended in a breakup. In India, 1.5% of marriages end in divorce, In some western countries the divorce rate is on an average around 15% which is 10 times more than that of India's, and as India is moving towards westernization the number is constantly increasing. In the Indian society it is not just the loss of a relationship but a blame which is put upon you along with the guilt that will also hamper your future relations. Others have suggested that the loss of a relationship partner is one of the most traumatic and distressing events in life. Identifying factors that can make the experience of this prevalent event less distressing is essential.

Grief and sadness are normal reactions after a stressful life event. Research has found that breakups can influence people in a number of profound ways. Following the end of a relationship, people report experiences such as distress, loneliness, and a loss of self-esteem.

Give yourself time to grieve the loss of the relationship. Healthy responses include a period of sadness, crying, frustration, and regret. It is a period of adjustment, so you need to give yourself some time to cope and heal before you are able to move on. While upsetting, these feelings usually start to lessen with time as you recover from the breakup. 30.7% of the cases reported an increase in psychological distress that was greater than .5 standard deviations (a medium effect size) and 19.6% of the cases reported a decrease in psychological distress that was greater than .5 standard deviations. Change for the remaining 49.7% of cases was within .5 standard deviations of the level of psychological distress individuals experienced while in a relationship. For changes in life satisfaction following a break-up, 28.6% of the cases reported a decrease that was greater than .5 standard deviations; 16.1% of the cases reported an increase in life satisfaction that was greater than .5 standard deviations. Change for the remaining 55.3% of cases was within .5 standard deviations of the level of life satisfaction they experienced while in a relationship. Overall, in 43.4% of break-ups, there was a decline in well-being (as measured by either psychological distress or life satisfaction) that

was greater than .5 standard deviations.

Because the emotional responses to a breakup can vary so greatly, it can sometimes be difficult to tell if what you are feeling is a natural response to the end of a relationship or something more serious. More serious symptoms that may indicate depression include.

- Feelings of hopelessness or helplessness
- Losing or gaining weight; appetite changes
- Sleeping too much or too little
- Loss of pleasure and interest
- Feelings of worthlessness
- Feeling sad, empty, or worthlessness
- Fatigue and lack of energy
- Listlessness
- Suicidal thoughts

We know and have seen a lot of people around us struggling and have struggled in maintaining their sanity as well as mental health after break up and relationship termination with their better half or partner. A lot of time it has been observed that due to post breakup trauma, one's physical health also starts deteriorating as people went into the phase of hopelessness and negativity and start ignoring themself. Our motivation behind building this application is to help them cope with their breakup phase.

The experimental research work done by us has motivated us to use our knowledge and make an effort to reduce the stress level of people. Automation and mechanization is rapidly increasing with intelligent machines. The happiness index has been reduced rapidly everywhere. The Human personality is degraded in terms of value system. Hoping to help out the majority of the population with a problem that is not taken seriously or is not addressed as much, we were motivated to create a web application that would provide people with the resources that could help people out. Having the right resources could, if not solve their, would at least guide them towards the right path.

II. OBJECTIVE, GOAL AND SCOPE OF THE RESEARCH WORK

Designed specifically to guide you through the end of a relationship, Patch Up provides you with all the necessary resources to help and guide you. Think of it like a pocket life coach combined with a personal journal. In addition to distracting, you during a tough time, the app can gently take you through podcasts to articles about your wellbeing and explore further methods of finding acceptance.

Goal: Our goal is to connect with maximum people who are going through their breakup phase and it has made their mental health suffer. As a consequence of deterioration of one's mental health, the person's physical health and confidence also suffer. Our goal is to make our app available to the people who are going through this tough phase of life after a breakup and make them aware that this is not easy but there is a whole community to help them through this.

- Scope of the research work: Our research shows that most of the individuals have gone through this phase in their life at least once. This segment of the market is currently unexplored and has a lot of potential in Indian as well as foreign markets.

III. LITERATURE SURVEY

Happiness is that precious thing, the whole world strives for. The ultimate desire to succeed in life, perform extraordinarily, earn money, get name and fame etc. The main motto behind all this is to finally get ultimate goal of life and that is happiness [1]. But we see in today's world, even after getting everything in life, people are not satisfied and unfortunately are not happy. The reason behind this is "mental health". According to world health organization (WHO), in the world out of four people, one suffers from some sort of mental or neurological disorder and currently, about 450 million people are in the clamp of mental illness [2]. Globally 332 million people were found to be a victim of depression in 2015, 7.5% of Indians suffers from major or minor mental illness [3]. Young people (aged 12-25) experience numerous life transitions, processing of intense emotions, and often 'first loves'. There is a growing body of work documenting the normative and salient nature of romance for young people, as well as the behavioural, emotional and psychosocial sequelae of the experience [4]. Furthermore, romantic relationships have been found to impact psychosocial development and mental health for young people. For example, frequent dating, early dating or dating multiple partners have been linked to behavioural issues, poor academic performance, decreased employment prospects, and increased

delinquency. Similarly, several studies have found elevated levels of stress, anxiety and depressive symptoms among young people who engage in romantic experiences compared to those who do not [5]. Most early romantic relationships result in a breakup and experiencing a relationship breakdown can be a significant event to which some young people have trouble adjusting. These difficulties can impact on young people's life and wellbeing in the form of stress, anxiety, depression, and associated physiological issues, such as sleeping and eating problems [6]. A number of variables related to romance have even been associated with the risk of suicide attempts or completions in young people. These include incongruent partnership role-identities, negative sexual experiences, stressful events, including breakups and relationship disputes [7].

In a university student sample, severe breakup distress, measured with a questionnaire concerning symptoms of grief, was accompanied by feelings of betray and rejection, depression symptoms, anxiety symptoms, intrusive thoughts about the ex-partner and sleep disturbances. The elapsed time since the breakup, self-reported quality of the former relationship, feelings of betray and depression scores especially predicted the severity of breakup distress [8]. Additionally, women reported higher breakup distress scores compared to men in that study. In a study of Stoessel et al., all of the subjects with a relationship breakup in the preceding six months and experiencing feelings of sadness about the breakup reported symptoms corresponding to clinical depression. Mobile phone technology has reached 100% market saturation for young people (ACMA 2015), and native apps provide an innovative, youth-friendly, anonymous and highly accessible way of delivering programs aimed at improving a young person's wellbeing. With the high uptake and broad access to app-based interventions, there is an opportunity to address issues such as breakup concerns in young people. Developing evidence based, targeted app intervention strategies for this project enabled the delivery of information and guidance to facilitate recovery from a breakup [9].

IV. SIGNIFICANCE OF MODELS, APPROACHES, PROBLEMS

It is important to acknowledge the challenges of using apps for mental health treatment. These challenges can broadly be divided into the following categories:

i. poor regulation of quality and privacy;
ii. inconsistencies in engagement;
iii. narrow focus on one disorder per app.

To be effective and address these challenges, mental health apps must be evidence-based and carefully designed. Developers should integrate the following four characteristics of high-efficacy mental health apps. The roles of mental health educators and professionals in the diffusion of mental health mobile apps are addressed in this viewpoint article. Mental health mobile apps are emerging technologies that fit under the broad heading of mobile health (mHealth). mHealth, encompassed within electronic health (eHealth), reflects the use of mobile devices for the practice of public health. Well-designed mental health mobile apps that present content in interactive, engaging, and stimulating ways can promote cognitive learning, personal growth, and mental health enhancement. As key influencers in the mental health social system, counsellor, educators and professional associations may either help or hinder diffusion of beneficial mHealth technologies. As mental health mobile apps move towards ubiquity, research will continue to be conducted. The studies published thus far, combined with the potential of mental health mobile apps for learning and personal growth, offer enough evidence to compel mental health professionals to infuse these technologies into education and practice. Counsellor educators and professional associations must use their influential leadership roles to train students and practitioners in how to research, evaluate, and integrate mental health mobile apps into practice.

The objectives of this article are to (1) increase awareness of mHealth and mental health mobile apps, (2) demonstrate the potential for continued growth in mental health mobile apps based on technology use and acceptance theory, mHealth organizational initiatives, and evidence about how humans learn, (3) discuss evidence-based benefits of mental health mobile apps, (4) examine the current state of mHealth diffusion in the mental health profession, and (5) offer solutions for impelling innovation diffusion by infusing mental health mobile apps into education, training, and clinical settings. This discussion has implications for

counsellor educators, mental health practitioners, associations, continuing education providers, and app developers.

V. REQUIREMENT ANALYSIS

Users need to sign up or sign in with their credentials. Secondly user may select any of the options of problems which he/she is facing. And options can be:
1. Anxiety
2. Depression
3. Self-esteem
4. Insomnia
5. Anger Issues.

Accordingly, the users would be presented with a list of podcasts and articles. They would be suggested podcasts and reading material that could help them in the respective areas. Every time the user logs in to the application, they would have to select amongst the above-mentioned options and accordingly they would be provided with the material. There would also be an option that would connect users with therapists and counsellors, providing them with their timings and contact information. The features in this app are designed in integration with surveys conducted with people who have gone through a serious breakup or a divorce with psychiatrists and mental health professionals to find the best way for you to move forward. We have relevant podcasts sessions and affirmative videos and music options. We also have a mood tracker feature in which you can rate how you are feeling that day. The web application presents this data in the form of a graph letting the user know about the changes in their mood throughout the week. Understanding and knowing what you are feeling is also a great way to understand yourself. Seeing changes in the mood throughout the week could also help you figure out when the user feels down and how his mood had been affected throughout the week. The application also has a feature that is similar to a personal journal where the user could log in their thoughts for the day and under a section named journal, look at their previous entries as well.

VI. SYSTEM DESIGN

Design tools used:

SYSTEM INTERFACES:

- HTML, CSS, JavaScript and Bootstrap are used for the front end of web portal.
- Django is widely used in web platforms as back end.
- Visual Studio Code platform is used to develop the website

HARDWARE INTERFACES:
The project occurred in different configurations of system as below:
- Operating System: Linux, Unix, Windows
- x86 - 64 processor
- 8 GB RAM

VII. DETAILED SYSTEM DESIGN

The system is designed using HTML, CSS, JavaScript and Bootstrap for frontend. These are basic web development and designing languages that are used to design an interactive frontend for any web page. We have used these languages to develop the entire frontend system for our website. We also used Figma to design the UI/UX for the webpage before we started with the development. While for backend we used the Django python framework. Using Django's admin model, we managed our websites backend user data. Using views and python we developed the other functionalities for the web application.

VIII. METHODOLOGY

The web application is a free to use platform for anybody. Going to the site using a working link would open up the login page for the website. The web application would contain featured blog posts and collaboration with counsellors that would pay us to put up their content on the site. This would increase traffic for them as well as help us keep our web application free of use for the users. The users would have to first have an account without which they would have to register or make a valid account. Having done so, the user details would be saved in the backend through the Django models framework. The users could track their moods throughout the week by inputting their moods in the five-star rating system. Depending on their mood the weekly graph would change. The users could also navigate the site for blog posts, YouTube videos and podcasts that are categorized based on different mental health symptoms. Users could find counsellor information on the site that would help them connect with the

counsellors for further assistance. Users could also type into a daily journal that would be stored in the backend and the users could view their entries later and make changes to them or even delete them.
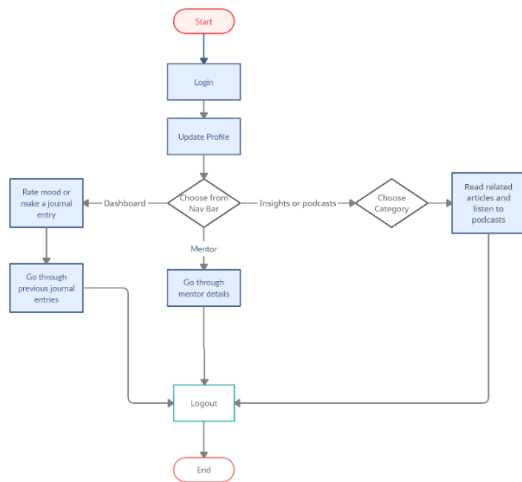

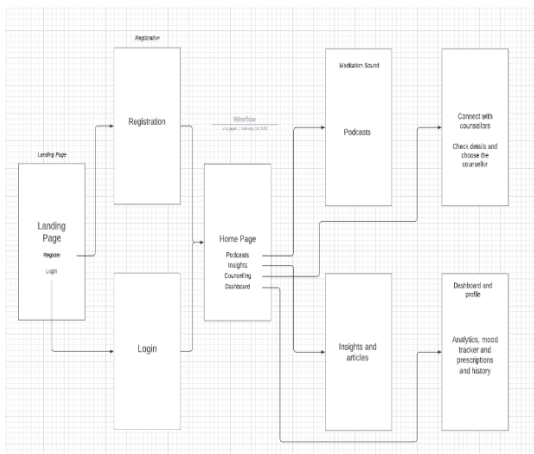Figure 2: Flowchart showcasing the workflow

Figure 3: Website wireframe Project Planning

IX. PROPOSED PROJECT PLANNING

1) Identifying Problem
2) Reviewing similar research papers.
3) Requirement gathering and specification.
4) Planning potential solutions.
5) Designing the solution.
6) System designing w.r.t proposed solution.
7) Prototyping
8) Working on UI components of the system.
9) Gathering the train, test and validate dataset for model training.
10) Testing the system
11) Deploying system on machine

X. DETAILED PROJECT PLAN

The very first step was to identify and understand the problem. The problem statement identifies the current state, the desired future state and any gaps between the two. Then we read recent research and theories on the topic to get the better idea about the topic. Going through the existing literature on the same topic provided us description, summary and critical evaluation in the area. It helped us provide an overview of current knowledge, allowing us to identify relevant theories, methods, and gaps in the existing research.

Requirement gathering is an essential part of any project and project management. Requirements gathering is the process of identifying your project's exact requirements from start to finish. In this phase, we gathered functional and non-functional requirement for the project. Then we planned a solution for the problem which meets all our requirement, goals and objectives. We mapped out the plan to solve the problem and designed a solution.

The next step is, systems designing and prototyping. System designing is the process of defining the architecture, product design, modules, interfaces, and data for a system to satisfy specified requirements. Prototyping is an experimental process where design teams implement ideas into tangible forms from paper to digital. Then we worked on UI components of the system by building an inventory of all the different patterns, colours, text styles and assets which you will use in your design. The next step was to gather the validated dataset for model training. After that, testing of the system will be done. All the errors in the system which we will come across during testing phase, will be fixed and finally the system will be deployed.
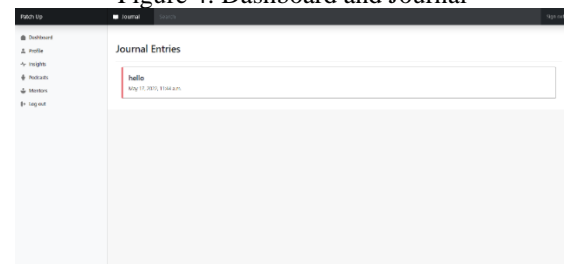
Figure 4: Dashboard and Journal

Figure 5: Journal entries
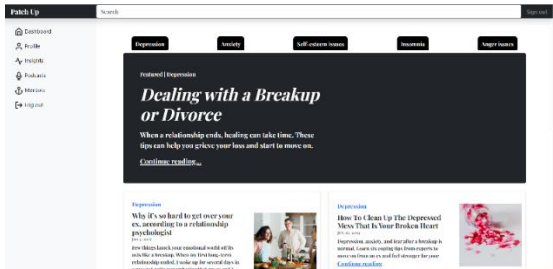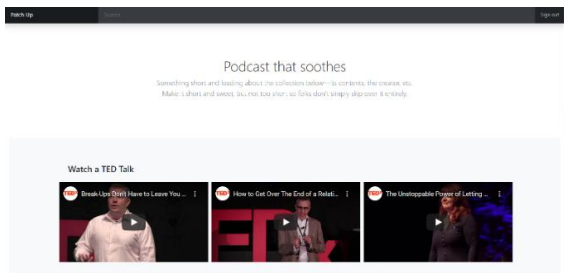

Figure 6: Insights page

Figure 7: Podcast page

CONCLUSION

Mobile apps have significant potential to deliver high-efficacy mental health interventions. Given the global shortage of psychiatrists and the lack of mental health care access in rural regions, apps have emerged as a viable tool to bridge the mental health treatment gap. Technology is well-poised to transform how mental health treatment is delivered and accessed, but this transformation requires the combined mobilization of science, regulation, and design. With the help of our application, we hope to guide users to the right path of healing. An important note here would be that we do not hope to or intend to replace medical or professional help through our application. Our application in no way can replace actual treatment if the user does want to get one. This could only be used as a pocket handbook or a guide that could help the users in their journey.

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