# **Counseling and treatment of mental disorders using ML**

* It is a research-based software project which can accurately detect the chances of any mental disorder in a person such as phobias, depression, anxiety, etc.
* Users can check them on 5 different levels.
* On collecting and assessing data in five different ways, our software can accurately detect the type of mental disease a person may have.
* On finding a person with a higher chance of a particular mental disorder, our software will alert the user and suggest that they meet any psychologist or clinician they prefer.
* They can show their personal report created by our software to their doctor for better clarification.

## **Functional or nonfunctional requirements for tests-**

1. **Clinical interview** - using a chatbot
2. **Personal lifestyle and self-report measures** - making a Q&A report using ML
3. **Psychological tests** - by giving a few scenarios and asking them about their reactions
4. **Physical exam** - previous medical record
5. **Any recent symptoms** - can be asked in their personal information.

## **Effectiveness on tracing mental disease -**

Mental diseases that can be efficiently traced by those 5 assessment layers are-

1. Generalized anxiety disorder (GAD)
2. Social anxiety disorders
3. Phobias
4. Panic disorder
5. Obsessive-compulsive disorder
6. Post-traumatic stress disorder
7. Separation anxiety disorder
8. Major/persistent depression disorder
9. Bipolar disorder
10. Psychotic depression

## **The goal of implementation -**

* Mental health is one of the biggest concerns of today's society due to less awareness and vague symptoms.
* Most of the anxiety and depression patients don't want to see a doctor due to social disorders.
* Can be helpful for those who can't reach a doctor or psychiatrist due to their busy lifestyle.
* Can suggest some healthy habits and some changes in lifestyle to reduce the chances of the disease you can be prone to.

There are several types of disorders, including:

1. Generalized Anxiety Disorder (GAD): is characterized by excessive worry and anxiety about everyday events, activities, and decisions.
2. Panic Disorder: characterized by sudden and unexpected panic attacks, which are intense periods of fear or discomfort that peak within minutes.
3. Social Anxiety Disorder (SAD): characterized by intense fear and avoidance of social situations or performance situations due to fear of embarrassment, judgment, or scrutiny.
4. Obsessive-Compulsive Disorder (OCD): is characterized by persistent and intrusive thoughts (obsessions) that lead to repetitive behaviors or mental acts (compulsions) that are aimed at reducing anxiety.
5. Post-Traumatic Stress Disorder (PTSD): characterized by symptoms that develop after exposure to a traumatic event, such as a natural disaster, combat, sexual assault, or witnessing a violent event.
6. Specific Phobias: characterized by intense and irrational fear or anxiety about specific objects, situations, or activities, such as heights, spiders, flying, or needles.
7. Separation Anxiety Disorder: characterized by excessive fear or anxiety about separation from home or attachment figures, such as parents or caregivers.
8. Major Depressive Disorder (MDD): characterized by persistent and severe feelings of sadness, hopelessness, and worthlessness that interfere with daily life.
9. Persistent Depressive Disorder (PDD): characterized by persistent feelings of sadness, hopelessness, and low mood for at least two years.
10. Bipolar Disorder: characterized by alternating episodes of depression and mania (periods of elevated or irritable mood, increased energy, and impulsive behavior).
11. Seasonal Affective Disorder (SAD): characterized by symptoms of depression that occur during the winter months, when there is less sunlight.
12. Postpartum Depression: characterized by symptoms of depression that occur after giving birth, which can include feelings of sadness, anxiety, and difficulty bonding with the baby.
13. Psychotic Depression: characterized by symptoms of depression along with symptoms of psychosis, such as hallucinations or delusions.
14. Situational Depression: a type of depression that occurs in response to a stressful or traumatic life event, such as the death of a loved one, a divorce, or job loss.