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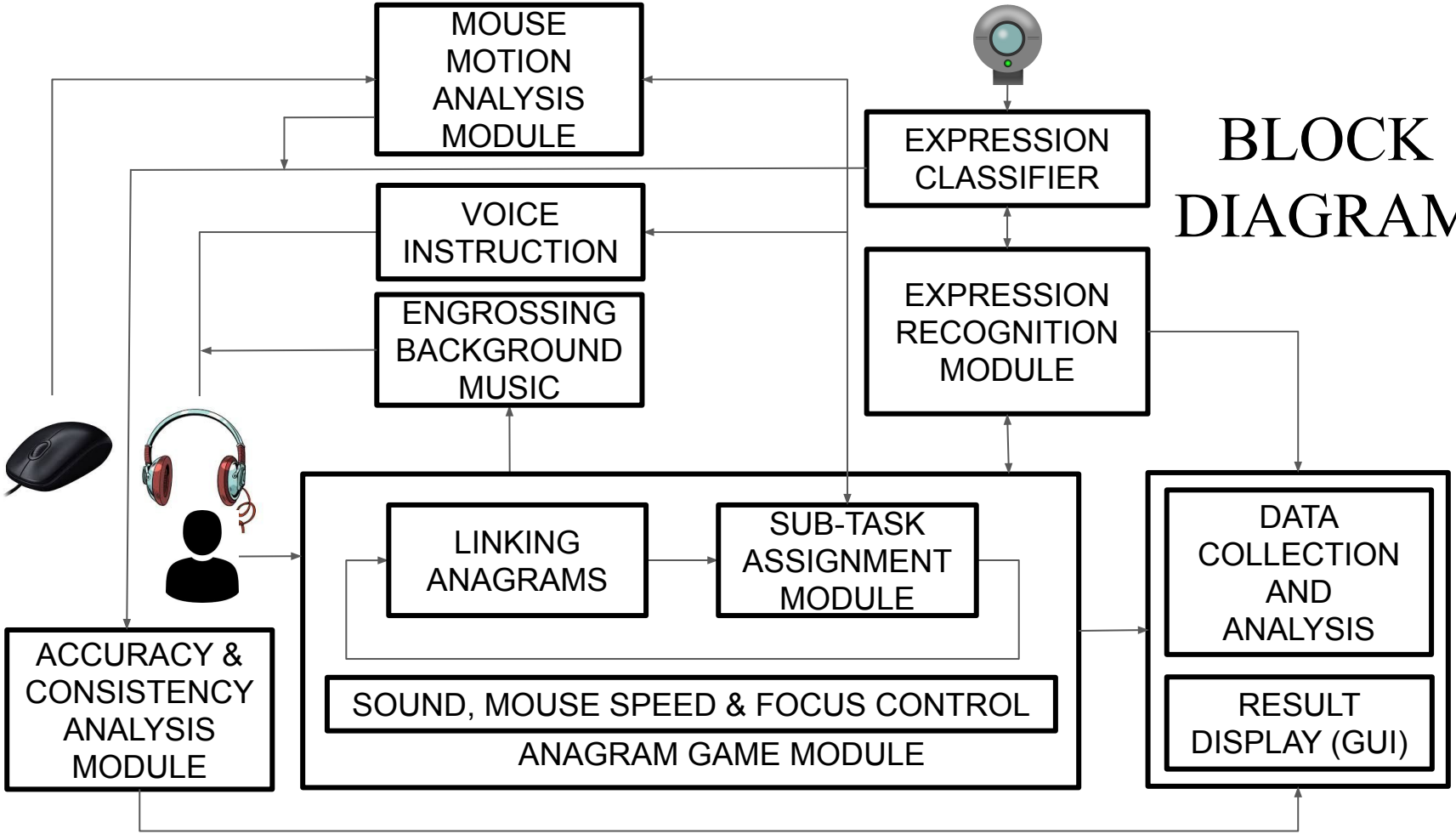
Mental Healthcare

Build a supplementary system to analyze mental state, pressure-bearing and task completion capabilities of a person under a variable situation. MindCanvas - It is an anagram based game which does your “Psych-Analysis” behind the scenes using the powers granted by Image Processing and Machine Learning based on behavioural analysis.

WHY DO WE NEED IT ?

- ★ **India** is a vast country with a population of **1.2 billion** people where **at least five crore people** live with a **mental illness** and most of them are even **unaware** of it.
- ★ **Visiting a psychiatrist** is believed to be a **stigma**.
- ★ On the other hand, a search on a Global scale for "**Human Resource** Management" on LinkedIn shows around **4 million** results in an **employed population** of **4 billion** people.
- ★ Even if we assume that the quantity is enough, **"Quantity" can never assure us of "Quality."**
- ★ In both the cases, the most important part of the Human Resource - "**The Brain**" could be **misjudged**. Thus, for having an **unbiased judgment** that is **equally reachable to all** this system is proposed which looks like a **Game** but does your "**Psych-Analysis**" behind the scenes.

BLOCK DIAGRAM



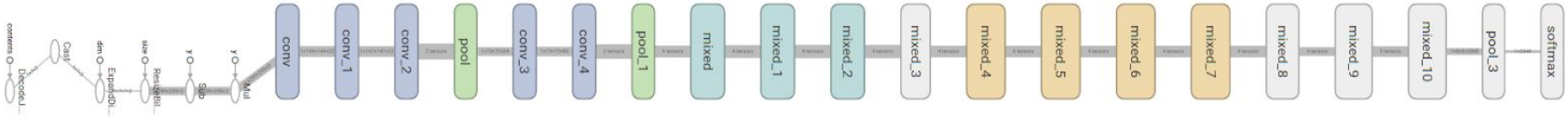
METHODOLOGY

Step 1: Meeting psychiatrists & Human resource managers for planning stage.

Step 2: Designing the game to implement the taken model.

Step 3: Building up a proper Human Expression Dataset.

Step 4: Implementing Image Processing and applying Machine Learning on the facial images.



Step 5: Collection and Analysis of subject based upon Mouse Movement Pattern.

Step 6: Taking data from Game Module and feeding it to the Accuracy & Consistency Analysis Module

Step 7: Measuring the accuracy, reliability, and scalability of the product.

REFERENCES

- Ma Xiaoxi, Lin Weisi ,Huang Dongyan, Dong Minghui, Haizhou Li . IEEE 2nd International Conference on Signal and Image Processing. Facial Emotion Recognition. 2017
- Charles R. Harrell, Bruce Gladwin, Michael P. Hoag. Mitigating the “Hawthorne Effect” in simulation studies. 1994
- Nishitha Aysha Ashraf, “There are less than 4000 psychiatrists in India: Is medical education to blame?,” April 3, 2018. [Online]. Available: https://www.thenewsminute.com/article/there-are-less-4000-psychiatrists-india-medical-education-blame-78952
- Michael J. Lyons, Shigeru Akemastu, Miyuki Kamachi, Jiro Gyoba. Coding Facial Expressions with Gabor Wavelets, 3rd IEEE International Conference on Automatic Face and Gesture Recognition, pp. 200-205 (1998). Available: http://www.kasrl.org