“Techno-Social Excellence”

Marathwada Mitra Mandal’s

INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF COMPUTER ENGINEERING

2019-2020

Project Synopsis

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Sponsorship: No

1 Group Id

Group ID-7

2 Project Title

Brain Tumor Segmentation And Detection

3 Project Option

Internal project

4 Internal Guide

Prof. S.K.Patil

5 Sponsorship and External Guide

No

6 Technical Keywords (As per ACM Keywords)

Abnormalities, Magnetic Resonance Imaging (MRI), Brain tumor, Pre-processing, K-means, fuzzy c-means, Thresholding, Naive-Bayes classification.

7 Problem Statement

To implement Brain Tumor Detection and Segmentation for analyzing the tumor in a brain showed in report.

8 Abstract

This paper deals with the implementation of Simple Algorithm for detection of range and shape of tumor in brain MR images and predicts the disease risk details from the given area of tumor. Tumor is an uncontrolled growth of tissues in any part of the body. Tumors are of different types and they have different Characteristics and different treatment. As it is known, brain tumor is inherently serious and life-threatening because of its character in the limited space of the intracranial cavity (space formed inside the skull). Most Research in developed countries show that the number of people who have brain tumors were died due to the fact of inaccurate detection. Generally, CT scan or MRI that is directed into intracranial cavity produces a complete image of brain. After researching a lot statistical analysis which is based on those people whose are affected in brain tumor some general Risk factors and Symptoms have been discovered. The development of technology in science day night tries to develop new methods of treatment. This image is visually examined by the physician for detection & diagnosis of brain tumor. However this method accurate determines the accurate of stage & size of tumor and also predicts the disease details from the area of tumor. This work uses segmentation of brain tumor based on the k-means and fuzzy c-means algorithms. This method allows the segmentation of tumor tissue with accuracy and reproducibility

comparable to manual segmentation. In addition, it also reduces the time for analysis and predicts the disease details from the given area of tumor.

Finally implement a system using java to predict Brain tumor risk level which is easier, cost reducible and time savable.

9 Goals and Objectives

- To increase the accuracy of finding diseases.
- Developed with low cost.
- The main objective of this paper is to detect the brain tumor of MRI image and calculating its area and predict Brain tumor risk level which is easier, cost reducible and time savable

10 Relevant mathematics associated with the Project

System Description:
Input: The input of this system will the images which is MRI images.
Output: This will give us the result in tumor stage & area calculation using Thresholding

Success Conditions: Detect Brain Tumor.
Failure Conditions: Nun.

11 Names of Conferences / Journals where papers can be published

2019 5th International Conference on Advanced Computing and Communication System

12 Review of Conference/Journal Papers supporting Project idea

[1] Vignesh Rajesh, Bharathan Venkat, Vikesh Karan and M. Poonkodi, "Brain Tumor Segmentation and its Area Calculation in Brain MR Images Using K-Mean Clustering and Fuzzy C-Mean Algorithm", Department of Computer Science and Engineering, SRM University.

[2] Samir Kumar Bandhyopadhyay and Tuhin Utsab Paul, "Automatic Segmentation of Brain Tumor from Multiple Images of Brain MRI" International Journal of Application or Innovation in Engineering & Management (IJAIEM), Volume 2, Issue 1, January 2013.

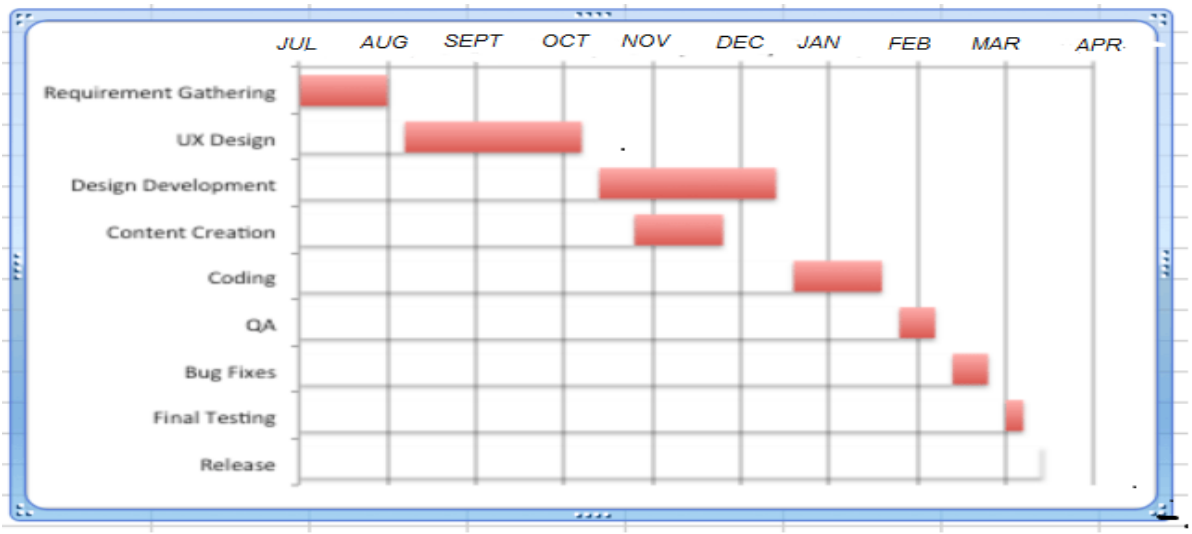
[3]A. Meena, "Spatial Fuzzy C-Means PET Image Segmentation of Neurodegenerative Disorder", Indian Journal of Computer Science and Engineering (IJCSE).

[4] Beshiba Wilson and Julia Punitha Malar Dhas, " An Experimental Analysis of Fuzzy C-Means and K-Means Segmentation Algorithm for Iron Detection in Brain SWI using Matlab", International Journal of Computer Applications (0975 – 8887) Volume 104 – No 15, October 2014.

[5] Eman Abdel-Maksoud, Mohammed Elmogy, Rashid Al-Awadi, "Brain tumor segmentation based on a hybrid clustering technique", Egyptian Informatics Journal (2015) 16, 71–81.

[6] PAYAL MISTRY, SHAGUN AKHAURI, SAYALI PATIL, S.P.TONDARE, "Segmentation of Brain Tumor And Its Area Calculation In Brain MRI Images Using K-Mean Clustering And Fuzzy C- Mean Algorithm", International Journal of Electrical, Electronics and Data Communication, ISSN: 2320-2084 Volume-2, Issue-3, March-2014.

13 Plan of Project Execution



Project Guide **Project Coordinator** **HOD**