CHAPTER 6

6.1 CONCLUSION

Due to massive number of programming languages and image processing toolkits, simple sharing of resources as plug and play functionality is difficult. The proposed cloud computing framework allows a platform to have an independent access to remote computing services, its web services allow end users to fully interact with data, and information requests as well as applications with a low level user interaction. We developed different components of the cloud computing framework and using existing software solutions, imaging toolkits and Microsoft technologies. For implementing the framework, we utilized the Visual Studio as the development environment, SQL server as the database manager, and Microsoft Workflow Foundation as the workflow engine.

A number of work packages have been developed for

- Evaluating the existing software solutions.
- Designing the standard datasets, metadata and web services.
- Designing the workflow orchestration.
- Incorporating the existing imaging and visualization toolkits.
- Designing the mechanisms and tools to enhance software usability for Medical Image Analyzer.

The DB Index is calculated from the segmented images, and the MKNWFCM algorithm gives DB index values as 3.69 which is efficient compared with the hybrid fuzzy C-Means algorithms. The Dunn Index is calculated from the Segmented Images, and the MKNWFCM algorithm gives Dunn Index values as 1.42 which is efficient compared with the other hybrid fuzzy C-Means algorithms. The $\beta$ Index is calculated from the segmented Images, and the MKNWFCM algorithms gives $\beta$ Index values as 0.11 which is efficient compared with the other hybrid fuzzy C-Means algorithms. The Service Oriented Cloud Computing Architecture
provides the better user interfaces, Visualization and ground truth images which are drown by radiologists. Analyzing algorithms are hidden in a cloud. The Medical Image Analyzer can utilize the algorithms as a package without any access to see/change their basic codes.

6.2 FUTURE SCOPE

Future direction for this work includes

a) This research can be extended to process all kinds of Medical Images Such as CT Scan, PET Images.

b) This Service Oriented Cloud Computing Architecture can be tested for any other type of image processing techniques such as Image Compression, Image Enhancement to get result in a faster and secured manner under cloud environment.

c) This research can be extended to Redundant 3-Tier Architecture and Multi-Data Centre Architecture.

d) This research can be extended for Utility Computing; it will be helpful to measure the service.