Summary Report

Parameters

Four types of cell

Normal Cell = 1

Cancer Cell = 2

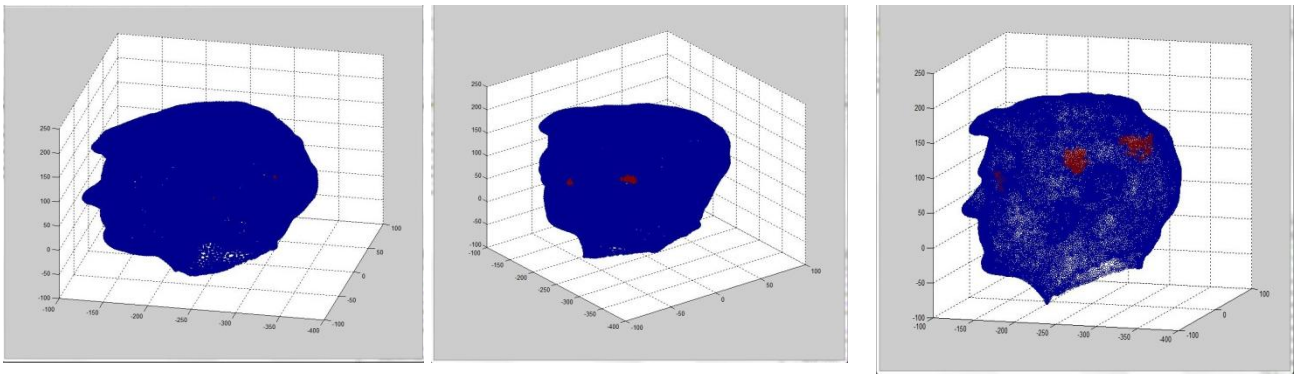
Complex Cell = 3

Necrotic (dead) Cells= 4

Solution implemented in C++. Surface triangulation is read and neighbors for a specific cell (triangle) is considered as the one that has two nodes in common. So, all cells except the boundary cells will have three neighbor triangles.

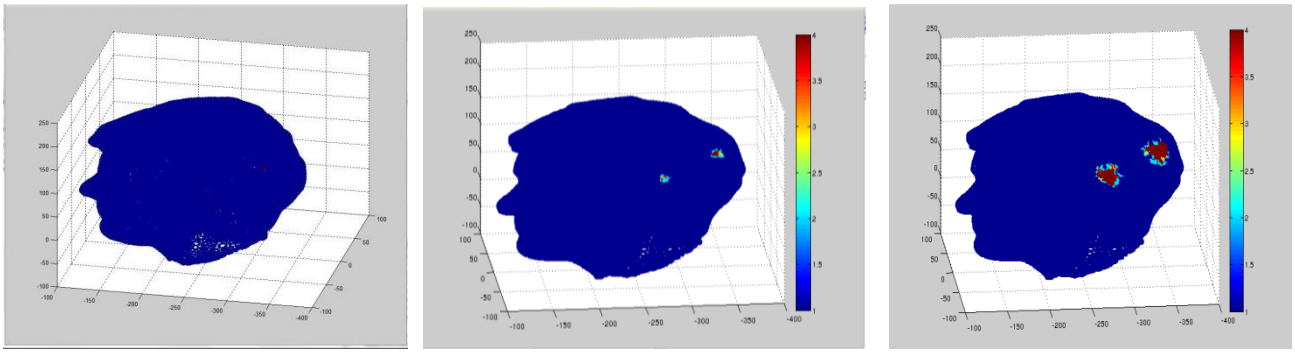
Initially four cells are marked as cancer cell to propagate the cell growth.

Two probabilities are investigated 0.2 and 0.05. Accuracy of the implementation has been checked by executing rules independently.



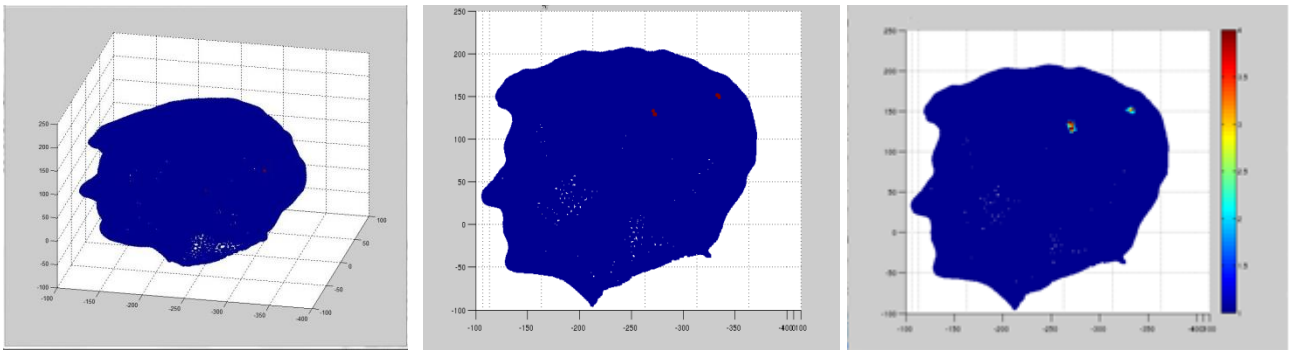
(a) 0 time step (b) 50 time step (c) 150 time step

Figure 1. Testing of rule 1 (evolution of cancer cell from normal cell)



(a) 0 time step (b) 50 time step (c) 150 time step

Figure 2. Skin cancer evolution with probability 0.2.



(a) 0 time step (b) 50 time step (c) 150 time step

Figure 3. Skin cancer evolution with probability 0.05.