DESIGN JUSTIFICATION

INTERACTIVE HUMAN DIGESTIVE SYSTEM VR TOUR

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COHESION

MODULE 1 [FPV MOVEMENT]

1. Logical

-> Each Function in the First Person View (FPV) Movement Module is performing a change in the view coordinates therefore they all are performing the same operation of movement of the view of the user hence this module is logical.

2. Functional

-> When the simulation is run, to modify the view, each function of this module is used to change the FPV coordinates therefore they all are part of a procedure and hence this module is functional as well.

MODULE 2 [FPV ROTATION]

1. Logical

-> The Function in the First Person View (FPV) Rotation Module is performing a change in the rotation coordinates therefore and since this module only handles one function, the module is a logical one.

2. Functional

-> When the simulation is run, to modify the rotation, the function in this module is used to change the FPV rotation coordinates therefore it is a part of a procedure and hence this module is functional.

MODULE 3 [INTERACTION]

1. **Logical**

-> It is a logical module as the function in this module is responsible for the operation of interaction with the organs and displaying their information.

2. **Communication**

-> Interacting with organs displays their information which is stored in the organs database so this function refers to the database for producing the output an hence this is a communications module.

COUPLING

BETWEEN MODULE-1 & MODULE-3

1. **Control Coupling**

-> To interact with the organs and display their information, there should be no change underway in 3D space or 3D coordinates so we set a flag which indicates that the desired FPV movement is over (flag=0) and interaction can be done. So it produces a control coupling between the FPV Movement Module and the Interaction Module.

BETWEEN MODULE-2 & MODULE-3

1. **Control Coupling**

-> To interact with the organs and display their information, there should be no change underway in 3D space or 3D coordinates so we set a flag which indicates that the desired FPV rotation is over (flag=0) and interaction can be done. So it produces a control coupling between the FPV Rotation Module and the Interaction Module.

BALANCE BETWEEN COHESION & COUPLING

-> **Cohesion** shows the relationship within the module & its relative functional strength. **Coupling** shows the relative independence between the modules. So a good software application design should have low coupling to reduce the interdependence between modules and our VR application only shows coupling between 2 modules therefore the application has LOW COUPLING and since we have more than 1 type of cohesion in each type it shows that the relative strength of module functionality is high therefore our VR application shows HIGH COHESION. Low Coupling & High Cohesion are the characteristics of a good software application design.