

**ESE 356 Digital System Specification and Modeling**  
**Project 3: Gaze Behavior Monitoring System**  
**Phase 2 (Final Version) Requirement**

**Due on 12/5/2019**

**Total Points (25): No late submission (submit the file by midnight of the due date)**

### **1. Initial Phase Specification**

In the simulation, the image from the previous phase will be used. Even though there is only one image available, we will treat the image is different in the simulation. The image will be displayed 5 times (image 1, image 2, image 3, image 4, image 5) during the simulation.

The overall simulation starts at time 0sec. You can assume these timing information is available at the mobiles.

Case 1: image 1 is displayed at 200sec, Image 2 is displayed at 220sec, image 3 is displayed at 225sec, image 4 is displayed at 230sec, image 5 is displayed at 250sec

Case 2: image 1 is displayed at 150sec, Image 2 is displayed at 175sec, image 3 is displayed at 200sec, image 4 is displayed at 225sec, image 5 is displayed at 250sec

Image size: 1k x 1k x 8

Bandwidth: simulate with 512Kbps, 1Mbps, 5Mbps, 10Mbps

Delta = the minimum waiting time between the packet transmission at the server.

Gamma = the minimum waiting time variation (0, Gamma) at the mobile trying the access the network.

Packet size: packet size from the mobile to server is fixed.

Server to mobile packet size 1kbits, 1Mbits

### **2. Verification and Simulation**

Write a test bench to verify your codes. The simulation result can be textual. You should generate the output with the time and communication handshake activity. In addition, you

should log the counter value variations in order to plot the counter values as a function of time. You can use either MATLAB or MS Excel to plot the data.

### **3. Submission Requirements**

Final report should include:

- Overall system description
- Source codes for robot, processing, server, top main and necessary test-bench codes
- Data base structures for robot, processing, server
- Description (pseudo codes) for handshaking mechanisms
- Verification/Simulation results: Handshake event activities (with time and event)
- Summary report (1-2 pages)

Submission through electronic files (zip version)

The report grading will be based on 1. Clarity of the report, 2. Completeness of the results.