CPS 706 Computer Networks Project

Simple content distribution application.

Name of team member	Student Number

Description	Marks
1. System.doc containing the architecture of your application	1
2. Readme.doc containing the description of your source code and instructions how to compile and run the application.	1
3. **System Initialization** on 4 servers with IP addresses (IPx =IP1, IP2, IP3 and IP4) which need to be obtained and configured at the beginning of the demo. Protocol ports should be used from the pool of port assigned to project group. • Initialization of application client with address IPx given by GA. Project group should also assign two TCP ports for communication with dummy servers www.hiscinema.com and content server in herCDN.com domain. One UDP port is necessary to communicate with dummy local DNS server. • Initialization of dummy local DNS server with IPx given by GA. Project group should also assign one UDP port for listening to requests from application client and one UDP port for sending queries to dummy DNS servers for domains hiscinema.com and herCDN.com. • Initialization of dummy DNS server hiscinema.com with IPx given by GA. One unique UDP port is also needed. Please note that you will need a new type field for video files, for example Type=V. • Initialization of dummy DNS server herCDN.com with IPx given by GA. One unique UDP port is also needed. • Initialization of dummy web server hiscinema.com with IPx given by GA. One TCP protocol port from the pool is also needed. Index file should contain at least five entries with URLs of the content files. Index file can be implemented as txt file and you can just choose file URL by indicating the option number. • Initialization of dummy content (web) server with IPx given by GA and TCP protocol port from the pool assigned to the group. Content files will be provided by GA and should be uploaded at the server.	6*0.5=3

4. **Functionality test:** After initialization, project group should demonstrate the system functionality by displaying control messages for each step of the process. Control message should display the activity performed in the step, IP addresses and protocol ports of endpoints. We assume that dummy server www.hiscinema.com has its IP address cashed in the application client. Then there should be 10 control messages as follows: • Client contacts dummy www.hiscinema.com • www.hiscinema.com returns index file or a txt file. • Client selects the content URL like abc/video and contacts local dummy DNS to resolve query with Type=V or R. • Local dummy DNS contacts dummy DNS for hiscinema.com with record of type R or V. • DNS server for hiscinema.com sends reply with IP address of authoritative dummy DNS for herCDN. This is a NS type. • Local dummy DNS sends query to dummy DNS herCDN.com • Dummy DNS for herCDN.com replies to local dummy DNS with a Type=A record. • Local dummy DNS replies to the client with resolved IP address of content server. • Application client contacts content server. • Content server replies with the content. Whole file should be downloaded before playing it. • Finally, downloaded file needs to be played. • Process is repeated twice. .	12*0.75=9
Comments and total:	