

UNIVERSITY OF ST ANDREWS

COMPUTER GRAPHICS

CS4102

Ring-Based Distributed System

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Goal

The aim of this practical is to understand the key principles behind various techniques frequently used for the rendering of 3D objects, and to get hands-on experience with their implementation and manipulation.

1 Initial Set-up

The project uses **maven** for lifecycle and dependency management. **LWJGL** was used for this project, which provides a way to use **OpenGL** from Java. OpenGL *may* be a cause of compatibility issues when running, but an early and forward compatible profile was used to minimise the risk of this.

```
usage: java -jar <FaceModelling>-with-dependencies.jar
-d,-drop    Include if this node should trigger a database refresh.
```

Table 1: Arguments for running application.

2 Receive/Send Posts

2.1 Server

Message Type	Usage	Payload
LOGIN	Sent by client to declare a username to the node.	Username
JOIN_GROUP	Sent by client to subscribe to a group.	Name of group to join.
LEAVE_GROUP	Sent by client to unsubscribe from a group.	Name of group to leave.
CHAT_MESSAGE	Text sent between clients.	To, From, Time, Contents
ERROR	Sent by server if an error occurs	Explanation

Table 2: Messages sent between client and server.

3 Testing

4 Summary

Functionalities implemented:

1. Dynamic ring formation

5 How to Run