CPT205 Computer Graphics

Feedback
Assessment 1 – 2D Modelling Project

2024-25

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Assessment Brief

2. The Task

You are required to create a two-dimensional (2D) Birthday Card. Your card may contain balloons, flowers, trees, smiling faces, lights, stars, clouds, sky, ground, buildings and other objects that may appear in a physical card of this kind. It should consist of both still and animated objects where appropriate. Keyboard and mouse interactions can be used to trigger the actions or display your card in stages. An objective of the assignment is to make good use of the graphics techniques and OpenGL functions. In particular, you should consider the following in completing this assignment:

a) proper configuration and use of the MS VC++ and OpenGL environments as for the lab work, using only the **freeglut** library (other OpenGL libraries are not allowed for this assessment);
b) good visual effect of your card utilising the full range of the techniques covered to date in the module (e.g. creation of geometry, transformations, viewing, animation and interactions via the mouse and keyboard; no requirements to directly utilise geometric creation algorithms such as DDA or parametric curves/surfaces);
c) effective use of relevant OpenGL freeglut APIs;
d) good programming practice (e.g. necessary comments and neat format of coding).

3. The Written Report

You are required to produce a report of no more than 5 A4 sides that

a) shows basic information – module code and title, your name, ID and degree programme on the first page;
b) briefly describes the design and lists the features of your card (relating to graphics techniques used but not explaining your code in detail);
c) provides a brief instruction section about how your program can be run effectively (e.g. interactive commands with the mouse and keyboard);
d) contains a set of typical screenshots to show your program in action.

4. Submission of Work

a) Compress your **written report, source code (.cpp)**, and **executable (.exe)** (**not** the whole MS VS solution/project which can have a very large file size) into **a single zip/rar** file. Name your zip/rar file in the following way: YourID_Surnamae_GivenName (e.g. **2298765_Yue_Yong**).

b) Submit your zip/rar file on the Learning Mall Core module site, by **Sunday, 3 November 2024**.

Marking Scheme

Category	Requirement
First Class (≥70%)	Overall outstanding work. Very neat program implements effectively all the graphics techniques covered to date. Card produced with realistic / real-life content and visual effect. Well-structured and concise written report providing all the required information.
Second Upper (60 to 69%)	Comprehensive program that utilises effectively the full range of the graphics techniques covered to date. Good commenting and layout of the program. An impressive Card produced with a good range of features achieved by calling appropriate OpenGL functions. A comprehensive and clear report containing all required information within the page limit.
Second Lower (50 to 59%)	Substantial working program implements a good range of graphics techniques (amongst geometry, transformations, interactions and animation). Nice layout and objects created in the Card. Written report contains all the information of the features and functions of the program including a set of proper screenshots.
Third (40 to 49%)	Working program that generates a recognisable Card with some objects and a limited range of the graphics techniques utilised. Written report describes all the basic information for the work completed and provides a good overview with some screenshots
Fail (0 to 39%)	Some code produced attempting to the use of some graphics techniques covered in the module. No or very limited artefact produced. Written report covers very limited number of the items required in the assignment brief, acknowledging properly sources used if any.
Non-submission	A mark of 0 will be awarded.

Feedback (1)

➢ <u>Overall</u>
- o Quite wide spread of quality – outstanding work vs basic work
- o Vast majority on time – Very small number of late submissions (some just a few minutes late) / non-submissions
- o Missing .cpp file / .exe file; empty files; using third-party libraries and dynamic link library (freeglut.dll/freeglutd.dll); mismatching between report (screenshots) and code

➢ <u>Geometry and overall effect</u>
- o Well-thought design ideas
- o Creation/implementation of good geometric elements / overall effect
- o Poor theme / overall effect (e.g. generic greeting cards)
- o Basic scene / geometric elements

➢ <u>Transformations and viewing</u>
- o Appropriate and effective use of the functions (e.g. for scene generation using geometric transformations, zoom/pan …)
- o Some submissions did not apply these at all

Feedback (2)

➢ <u>Animation and Interactions (keyboard and mouse)</u>
  o Well-thought animated objects / effective utilisation of interactions
  o Inappropriate or little animation / interactions simply used without good reasons

➢ <u>Coding</u>
  o Neat code format, sensible variable names and proper commenting
  o Massy format (e.g. too many blank lines) / arbitrary variable names / little commenting or commenting <u>not in English</u>

➢ <u>Report</u>
  o Concise reports covering required content (e.g. ideas for design, features and methods used for implementation with proper screenshots)
  o Missing key aspects required (e.g. design and key features) / giving unnecessary details (e.g. lines of OpenGL functions / code) / massy screenshots

Feedback (3)

➤ <u>Acknowledgement and use of other sources/techniques</u>

- o Proper use of sources (fine to use sample lab programs)
- o Use of unexpected techniques (e.g. texture mapping)
- o Use of other OpenGL libraries rather than freeglut
- o Use of external sources without proper acknowledgement (e.g. GitHub / CSDN)

➤ <u>Suspended misconduct</u>

- o Independent work in vast majority of submissions
- o Tiny number of suspended misconduct (e.g. collusion)

➤ <u>Marking still under way</u>