

**CS547**  
**Assignment 2**  
**Due Date : 18/10/99 (end week 13)**  
**Assessment : 80%**

## CS547 Web Page

One of the first things you must do is create a CS547 web page. You must have (clearly visible) link to your assignment 2 work on your CS547 web page. All required reports, including brief weekly progress reports for assignment 2 (think of it as a “change log”) must be accessible from that page. If you do not want to everyone to see the details of what you are doing, you may password protect those pages (use htaccess and provide the password to the lecturer). The URL you must use is: <http://yallara.cs.rmit.edu.au/~yourId/cs547/index.html> (note: that’s cs547 in the URL not CS547)

## Topics

A wide choice of assignments is possible:

- VRML technology. For example, authoring or manipulation tools for: compression, streaming, syntax checking, transformation, polygon counter, polygon decimator, LOD generator, etc.
- A VRML animation or virtual world. Note that this choice of assignment may turn into a primarily creative effort.
- Multi-user VRML games or chat rooms.
- Physically-based simulation (robot arms, cockroaches, engines, planetary systems, ...).
- Scientific visualisation.
- Creative animation using Softimage (or possibly other packages).
- 3D games using: OpenGL, Open Inventor, VRML and Java or Java3D.
- Ray tracer in C++ using STL.
- Flight or driving simulators.
- Development of a VRML authoring tool (polygon reduction for instance).
- Radiosity renderer in C++.
- Collision detection system.

You are also encouraged to discuss other alternatives.

The choice of language and library is open. However, bear in mind that some languages and libraries will be better supported in the Department than others — in particular, Java3D is not yet installed. Further, different libraries and languages will change the difficulty of achieving certain functionality and effects.

By the end of week 4 you *must* choose an assignment and put a link from your CS547 web page to a report (approximately 1-2 pages) which includes: (1) your project choice - heading plus one-two paragraph description (abstract), (2) preliminary plans which may include diagrams, pictures or models about what you aim to do, and (3) the grade you would like to receive if you reach your aim.

You must submit using turnin your report indicating your choice of assignment. The report format is html.

If you are unable to make a choice, a default assignment of either a ray-tracer or physically-based modelling will apply.

All assignment selections must be approved.

## Submission

All submissions must include:

- A 2-5 page final report, including images, and a weekly (or more) progress report both of which must be placed on or linked from your CS547 web page as well as being turned in as part of your electronic submission (below).

Depending upon your assignment choice, your submission may include:

- A gzipped tar file containing your source code (or VRML), Makefile, images, sound files and report. This should be submitted using turnin.
- A videotape or digital movie of your animation.

## Assessment

Assessment will be based on multiple criteria, including:

- The difficulty of what you have attempted.
- What you have achieved, including functionality and robustness.
- Creativity and originality (depending on the project).
- The demonstration of your work where you point out just what you have done.
- The quality of your design and program.
- Your report discussing what you have done.

Your work must be demonstrated (interactive projects) or presented (non-interactive projects) in-person. Demonstrations and presentations will occur in the final teaching week of semester, i.e., the week the assignment is due in. You should view your demonstration or presentation as, in part, an oral examination.

## Approach

The project work is the main focus of the subject - and it is the main vehicle for you learning about computer graphics. You are urged to begin work on your assignment as early as you can. In some cases the presentation order of topics in the lectures will mean that details of an area may not be presented formally until later in the semester. You should still endeavour to begin your project as early as possible. If the order of the presentation of material in the lectures is a problem, see me, or consider a different assignment.