10/2 10/5

# FRACTAL BASED AUTOMATED PATTERN DESIGN

## A PROJECT REPORT PRESENTED BY

#### INDU KUMARI DASSANAYAKE

to the Board of Study in Statistics and Computer Science of the

## POSTGRADUATE INSTITUTE OF SCIENCE

in partial fulfillment of the requirement for the award of the degree of

#### MASTER OF SCIENCE IN COMPUTER SCIENCE

of the

UNIVERSITY OF PERADENIYA

**SRI LANKA** 

2006



#### FRACTAL BASED AUTOMATED PATTERN DESIGN

Indu Kumari Dassanayake

C-95, University Quarters,
Prospect Hill,
Peradeniya,
Sri Lanka.

In this project investigation has been made to overview how information and computer technology can be an active part in designing patterns.

For this, some pretty patterns were designed using base shapes and Computer Graphics theory. Fractal based graphic patterns and their applications have been taken into consideration.

Information has been extracted from the given base shape and that information was combined with some of the Two Dimensional Geometric transformations to create different patterns.

In the Designing process here, the user of the design can interfere with the on going design by giving the number of cycles of replicating, number of new petals in one layer and accordingly a creative design can be generated. View is of tunnel like and imitative at smaller and smaller scale.

Software used, is 'MATLAB' which gives an easy access of mathematical functions via the matrices.