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FINAL YEAR PROJECT REPORT

**MODELLING OF TREES USING PARAMETRIC
L-SYSTEM FROM HAND FREE SKETCHING**

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

By

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SPRING, 2017

3D MODELLING OF TRAPEZOIDAL PARAMETRIC L-ROSTERS
FROM HAND-DRIFT SKETCHING

ACKNOWLEDGEMENTS

ABSTRACT

We would like to thank everyone who had contributed to the successful completion of this project. We want to express our gratitude to our research supervisor, Dr Humera Farooq for her invaluable advice, guidance and her enormous patience throughout the development of the research.

In addition, we would also like to express our gratitude to our loving parents and friends who had helped and given us the encouragement.

3D MODELING OF TREES USING PARAMETRIC L-SYSTEM FROM HAND FREE SKETCHING

ABSTRACT

The beauty of the patterns observed in nature has attracted the attention of researchers for many years. Computer simulation and computer graphics in particular, can play an important role in the understanding of the formation and structure of these patterns. The research presented in this project focuses on the modelling and visualization of plants. Procedural modelling is an efficient way to create models in a fast and scalable way.

The objective of this project is to present an interface for quickly and easily model 2D trees from hand free sketch. The system generates a 2D iterated model of the tree from 2D sketch on the basis of our observation that trees spread their branches uniformly. The main advantage of using this technique is that users can draw creative tree structures.

Firstly, a hand free sketching interface will be designed through which user will draw the model of a tree. In the processing phase of the inverse Parametric L-system, grammar behind the tree will be identified and parsed. The geometry of the designs tree will be retrieved by inverse Parametric L-System (a recursive function). It will be followed by iterations performed on the tree according to the user's requirement.

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