Declaration of Authorship

This is to certify that the work presented in this thesis is the outcome of the analysis and experiments carried out by *Md. Tanvir Rahman, Tasnuva Mehnaz* and *Mahbubur Rahman Ashraful Alam Khan*, Professor of the Department of Computer Science and Engineering (CSE), *S.M. Sabit Bananee* , Lecturer of the Department of Computer Science and Engineering (CSE), *Imtiaj Ahmed Chowdhury* , Lecturer of the Department of Computer Science and Engineering (CSE), Islamic University of Technology (IUT), Dhaka, Bangladesh.
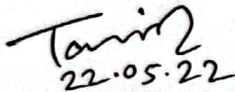
We are very grateful to our supervisors *Prof. Ashraful Alam Khan*, Department of Computer Science and Engineering, Islamic University of Technology (IUT), *S.M. Sabit Bananee*, Department of Computer Science and Engineering, Islamic University of Technology (IUT), *Imtiaj Ahmed Chowdhury* , Department of Computer Science and Engineering, Islamic University of Technology (IUT), for their supervision, knowledge and support, which has been invaluable for us.

It is also declared that neither of this thesis nor any part of this thesis has been submitted anywhere else for any degree or diploma. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is given.
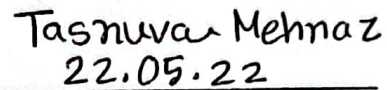
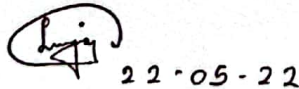**Authors:**

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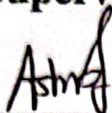Student ID - 170042006

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