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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI-**

**590 018**



**A MICRO PROJECT REPORT ON**

**“A project on maintainance of pending works: Qheap  
SPEEDES”**

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**CERTIFICATE**

This is to certify that the Micro-Project entitled “A project on maintainance of pending works:Qheap SPEEDES” has been Successfully Completed by

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The bonafide students of Department of Basic Sciences, Alva's Institute of Engineering and Technology, affiliated to VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI, during the academic year 2020-2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report. The report has been approved as it satisfies the academic requirements in respect of Micro-Project work prescribed for Bachelor of Engineering.

  
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Mini Project Guide

  
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## ABSTRACT

For maintaining its set of pending events in ascending time order, the Synchronous Parallel Environment for Emulation and Discrete-Event Simulation (SPEEDES) now uses the SPEEDES Qheap, a new general-purpose priority queue data structure. For large numbers of elements, empirical tests have demonstrated that this data structure outperforms more standard priority queue data structures without breaking down. The SPEEDES Qheap needs to do two operations: (1) inserting time-tagged events (time denotes an event's priority — low time means high priority) and (2) removing the event with the least time tag. Because events that may generate future occurrences must always be handled in ascending temporal sequence, these activities aid SPEEDES in preserving causality.