Bansilal Ramnath Agarwal Charitable Trust's

VISHWKARMA INSTITUTE OF INFORMATION TECHNOLOGY, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

**PROJECT SYNOPSIS**

* Group Id

**STUDENT: -** 1)ADITYA BHALE-17U015(221008)

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* Project Title: TO DETERMINE WHETHER A BINARY TREE IS HEIGHT BALANCED
* Project Option

NON INDUSTRY SPONSERED

* Internal Guide: DISHA MAM,RATHI MAM
* Sponsorship and External Guide

CODE BLOCKS

* Technical Keywords (As per ACM Keywords)

1. C++ LANGUAGE.
2. LAPTOP.
3. BINARY TREE
4. HEIGHT BALANCED TREE
5. SUB TREE

SYNOPSIS

* Problem Statement

GIVEN A BINARY TREE FIND WHETHER IT IS HEIGHT BALANCED

* Abstract

IN OUR PROJECT WE FOLLOW A SCHEME IN WHICH WE CHECK FOLLOWING CONDITION’S TO DETERMINE WHETHER THE TREE IS HEIGHT BALANCED

FOR EXAMPLE LET’S TAKE A TREE T

1)LEFT SUBTREE OF T IS BALANCED

2)RIGHT SUBTREE OF T IS BALANCED

3)THE DIFFERENCE BETWEEN HEIGHTS OF LEFT SUBTREE AND RIGHT SUBTREE IS NOT MORE THAN 1

* Goals and Objectives: IN CLASS WE HAVE LEARNT ABOUT HEIGHT BALANCED TREE SO IT BECOMES IMPORTANT FOR US AS STUDENTS TO CREATE A PROGRAM TO CHECK WHRETHER A TREE IS HEIGHT BALANCED OR NOT

10 Relevant mathematics associated with the Project

System Description:

**S** = { Input, Output, Components, Divide and Conquer, Constraints, Functions, Success, Failure}

* **Input** = {TREE }
* **Output** = {MESS AGE THAT WHETHER THE TREE IS BALANCED }
* **Components** = {HARDWARE COMPONENTS: LAPTOP},{SOFTWARE COMPONENTS: CODE BLOCKS}
* **Constraint** = {C++ COMPILER IS NEEDED,CODE BLOCKS}
* **Functions** = { TO CHECK WHETHER BINARY TREE IS BALANCED OR NOT}
* **Success** ={ PRINTS A MESSAGE THAT ENTERED BINARY TREE IS A HEIGHT BALANCED TREE }

1. Names of Conferences / Journals where papers can be published
2. 7th International Conference on Software and computing technology (ICSCT 2016)
3. Second International Conference On Computer Science ,Engineering and application(CSEA-2016)
4. Review of Conference/Journal Papers supporting Project idea

* G. Kortuem, F. Kawsar, D. Fitton, and V. Sundramoorthy, "Smart objects as building blocks for the internet of things,"Internet Computing, IEEE, vol. 14, pp. 44-51, 2010.
* R. Piyare and M. Tazil, "Bluetooth based home automation system using cell phone," in Consumer Electronics (ISCE),2011 IEEE 15th International Symposium on, 2011, pp.192-195.
* Y. Liu, "Study on Smart Home System Based on Internet of Things Technology," in Informatics and Management Science IV. vol. 207, W. Du, Ed., ed: Springer London,2013, pp. 73-81.
* Internet of Things: Ubiquitous Home Control and Monitoring System using Android based Smart Phone

-Rajeev Piyare (Department of Information Electronics Engineering, Mokpo National University, Mokpo, 534-729, Korea South)

* Home Automation Using Internet of Things

-Pooja Patel, Mitesh Patel, Vishwa Panchal & Vinit Nirmal (K. J. Somaiya Institute of Engineering and Information Technology, Mumbai, India.)

* Wireless Home Automation Technology (WHAT) using Internet of Things(IOT).

-Kaushik Ghosh, Rushikesh Kalbhor, Disha Tejpal, Sayali Haral (Department of Computer Engineering, Savitribai Phule Pune University)

13. Plan of Project Execution

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| SD Project | | | | | |
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| **Stages** | **Begin Date** | **End Date** | **Jan** | **Feb** | **Apr** |
| Selection of Project | 07 January 2019 | 20 January 2019 |  |  |  |
| Requirement Gathering | 21 January 2019 | 26 January 2019 |  |  |  |
| Feasibility Study | 27 January 2019 | 02 February 2019 |  |  |  |
| Coding and Implementation | 03 February 2019 | 16 February 2019 |  |  |  |
| Testing | 17 February 2019 | 27 February 2019 |  |  |  |
| Submission | 21 April 2019 | 28 April 2019 |  |  |  |
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