###### 

PUCIT

Punjab University College of Information Technology

**Session: BS SE Fall 2017**

**Project Advisor:** Sir Adnan Bashir

**Submitted By:**

Syed Qulzam Abbas (BSEF17M017)

Waseem Akram (BSEF17M015)

Danish Majeed (BSEF17M032)

## 1.1 Project Title

“Academic resources management using Blockchain Technology: A Decentralized Application”

## 1.2 Project Overview Statement

In this project, we will make a decentralized app which manage all academic resources of students in a secure way by using Blockchain technology. There is no central system available in University of the Punjab, for university students at time of admission till completion of degree program. Currently, every department is dealing in their own fashion. To maximize the value of those interactions, a transparent mechanism is required, This decentralized information system in The Punjab University (PU) will help the administration to manage all online relations and interactions with students such as admissions, result, transcripts, Help Desk and/or services in a secure, transparent, traceable and immutable manner. Blockchain is an emerging technology, with almost daily announcements on its application to everyday life. Having immutable in nature, security and transparency have given interest to everyone these days. The degree certificates will be verified with consensus system of blockchain by university.

|  |
| --- |
| Project Title:  Academic resources management using Blockchain Technology: A Decentralized Application |
| Group Leader: Syed Qulzam Abbas |
| Project Members:   |  |  |  |  | | --- | --- | --- | --- | | Name | Registration # | Email Address | Signature | | Waseem Akram | BSEF17M015 | BSEF17M015@pucit.edu.pk |  | | Syed Qulzam Abbas | BSEF17M017 | BSEF17M017@pucit.edu.pk |  | | Danish Mujeed | BSEF17M032 | BSEF17M032@pucit.edu.pk |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |
| Project Goal:  The goal of this project is to research how to make a secure environment to the students and educational institution in which they can save their important documents which will be share with the public keys by using Blockchain. |
| Objectives:   |  |  | | --- | --- | | Sr.# |  | | 1 | All records of student will save in decentralized ledger. | | 2 | The certificates of students will be verified by the institutions with consensus mechanism. | | 3 | Documents will be shared with private keys. | | 4 | Anyone can see the document with the public key. | | 5 | Make web based decentralized app. | | 6 |  | |
| Project Success criteria:   * To fulfill the objectives. |
| Assumptions, Risks and Obstacles:   * Blockchain is new technology therefore, we have to explore a lot more things of Blockchain. |
| Organization Address (if any): NIL |
| Type of project: Research |
| Target End users: Student and administration |
| Development Technology: Structured |
| Platform: Blockchain |
| Suggested Project Supervisor: **Sir Adnan Bashir** |
| Approved By: |
| Date: |

## 1.4 Project Goals & Objectives

The goal of this project is to research how to make a secure environment to the students and educational institution in which they can save their important documents which will be share with the public keys by using Blockchain.

**Objectives:**

* All records of student will save in decentralized ledger.
* The certificates of students will be verified by the institutions with consensus mechanism.
* Documents will be shared with private keys.
* Anyone can see the document with the public key.
* Make web based decentralized app.

## 1.5 High-level system components

* Blockchain
* Hashing Data structure
* 3 tier Architecture for web app
* Smart contracts
* Security

## 1.6 List of optional functional units

If we complete the above functionality before time, we’ll add more functionalities which will assist the student and also make a cross platform mobile app.

## 1.7 Exclusions

We are making a decentralized app using blockchain technology.

## 1.8 Application Architecture

Hybrid blockchain architecture will used in this decentralized app.

## 1.9 Hardware and Software Specification

* Linux OS

**1.10 Tools and technologies used with reasoning**

This is research base project so Tools and technologies will be decided later