Workshop

Basics of NodeJS, MongoDB and Phaser framework

Date : Thursday, 5th January, 2017 to Saturday, 7th January, 2017.

Time : 9.00 am – 4.00 pm

Venue : Computer Center

Speakers : Siddant Reddy, Mitesh Khare, Rudraprasad Das.

Participants : Event Development Team of Teknack 2017.

Learning Objective: To acquire knowledge of NodeJS and MongoDB and Phaser framework.

Learning Outcome: The students will able to create their own JavaScript applications using NodeJS. Students will learn the ExpressJS and Mongoose frameworks used to create server applications and MongoDB applications in NodeJS respectively. Students will able to create simple HTML5 and WebGL games using popular framework Phaser.

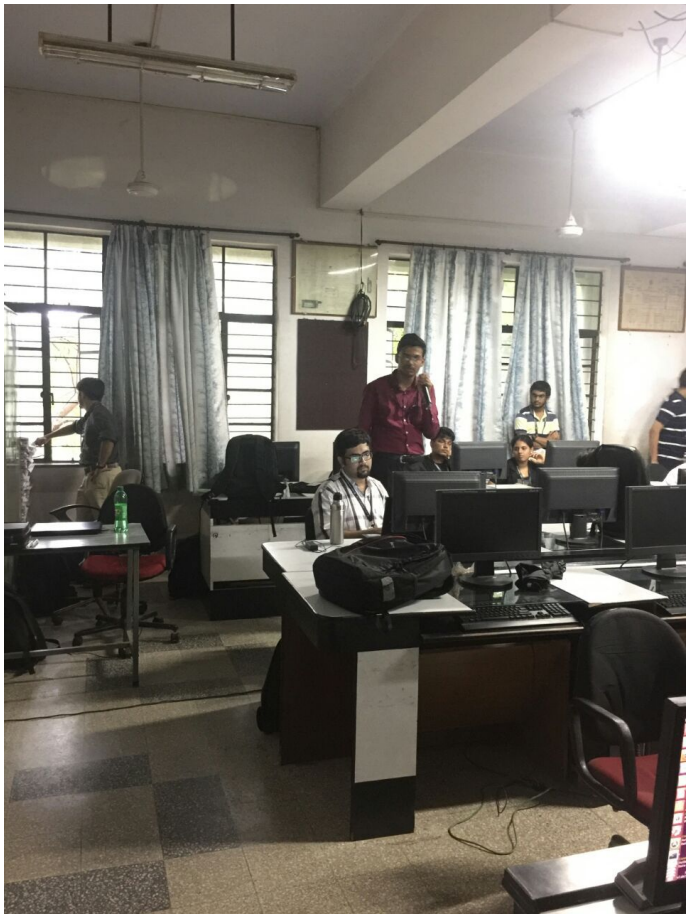
Contents:

1. Introduction to server architecture.
2. Introduction to HTTP protocol.
3. JavaScript
    1. Introduction
    2. Asynchronous structure
    3. Callback function architecture
    4. Advantages
    5. Disadvantages
    6. Examples
4. NodeJS
    1. Introduction

    2. Simple JavaScript application
    3. Advantages
    4. Disadvantages
    5. Real life applications
    6. Examples
5. ExpressJS
    1. Introduction
    2. RESTapi structure
    3. Routing examples
    4. App configuration
    5. Interfacing other modules with ExpressJS
    6. Complex examples
6. MongoDB
    1. Introduction
    2. CRUD operations
    3. Interface with NodeJS
    4. Introduction to Mongoose framework
    5. Example (Authentication using MongoDB and RESTapi)
7. Socket.IO
    1. Introduction to Websockets and WebRTC
    2. Server Side API
    3. Client Side API
    4. Real life applications
8. Chat Application
    1. Architecture
    2. Front-end
    3. Back-end
    4. Optimization
    5. Testing
9. Phaser
    1. Introduction
    2. APIs
    3. Examples
    4. Simple HTML5 game
10. Conclusion

Report:

The workshop was opened by introduction to server architecture by Siddhant Reddy. The main focus of the workshop on first day was understanding of JavaScript programming. In the second half of the workshop (Day 1), architecture of NodeJS was explained followed by simple examples.

The second day of the workshop began with revision of NodeJS followed by introduction to ExpressJS framework. In the next part of the workshop, Mitesh Khare explain the basics of MongoDB and CRUD operations of MongoDB. Later brief explaination of using MongoDB with NodeJS were given. In the second half workshop (Day 2), an example of authentication system was taken using MongoDB and NodeJS followed by simple chat application.

On the third day of workshop, Rudraprasad Das gave brief introduction to HTML5 and WebGL games. The workshop continues with explanation of Phaser framework. Rudraprasad Das showed some examples of Phaser. In the later half, a simple HTML5 game was created by students under the guidance of Rudraprasad Das.