***Afzal Ahmed Assignment 4***

***IOT046458 Batch 2, Quarter 3***

***Class Time: 1:30 – 3:30***

**Rocket vs Actix Web frameworks**

A framework can be considered as a collection of tools and libraries required to build, test, and run applications. A framework provides blueprints of software development. Frameworks can be distinguished based on their architecture, features etc.

Rust is a programming language used to build fast, safe and reliable applications. It has many tools and features, among them are two web frameworks. These web frameworks are known as **Rocket,** and **Actix-web.** Below we present a brief comparison of the two.

**Rocket web framework (Pros and cons):**

* Like its name, Rocket is fast, supports in/out data streaming and has template support.
* Form handling is easy, does not allow bad requests.
* It type checks route URL’s.
* Provides customizable approach to build your application.
* You don’t have to worry about boilerplate code, it makes use of the Rust’s code generation tools to make a reliable API.
* Json is supported in Rocket.
* Till this time Rocket depends on nightly version of Rust. However, it is anticipated that it will add support for stable version of Rust as well in the future.
* Multiple form support is a little headache so far.
* Continuous changes in nightly, may cause unexpected changes in Rocket.
* Rocket depends on nightly Rust which does not have async feature as yet.

**Rocket web framework (Pros and cons):**

* Like Rocket, Actix-web is also considered a blazingly fast framework.
* Its architecture is based on Rust’s actor system and is considered a server-rendered framework.
* Supports both HTTP/1.x and HTTP 2.0 protocols.
* It supports data streaming with pipeline support.
* It has boilerplate code to help developers get start.
* It has extensive documentation support.
* It supports web sockets on client/server side.
* You may customize request routes for data access.
* It has support for async request handling, helping multiple concurrent executions.
* For beginners using Actix-web can be a little trickey.
* It relies heavily on unsafe code to improve performance.