

Brief introduction to web applications



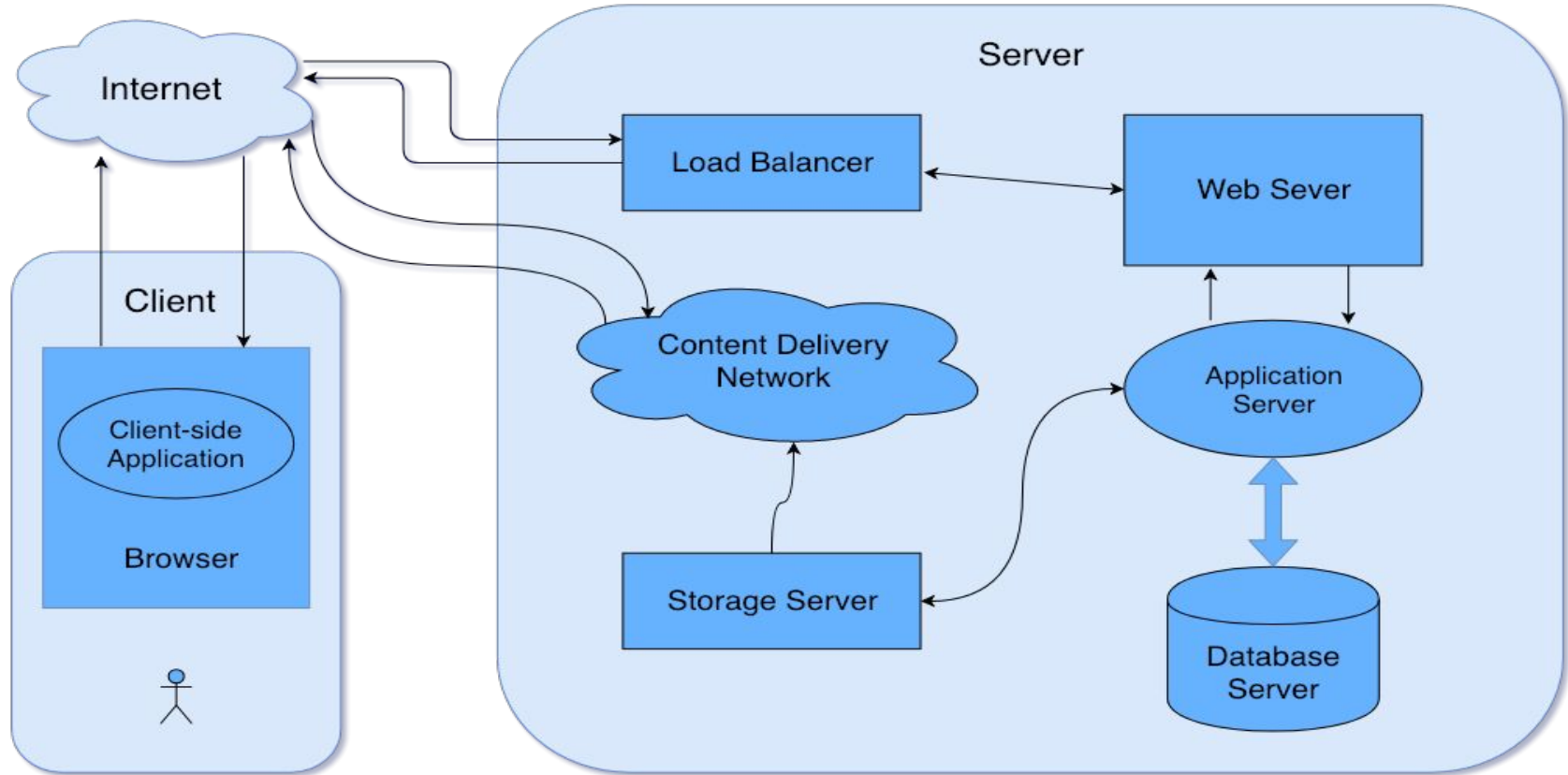
Websites & Web Applications

- Website
 - Same content to all users.
 - Lack of user specific personalization and behaviours.
 - Involves no data processing.
- WebApp
 - Content varies from user to user.
 - Involves user interaction specific events
 - Data processing.

Frontend & Backend

- Frontend
 - Involves whatever user sees on webpage.
 - Mostly user interactions
 - Data presentation.
- Backend
 - Involves CRUD operations
 - Complex data manipulation logics.
 - Provides data to front end.

Request and Response in Web



Basic Terminologies

Request types:

- GET – Retrieve server resource

- POST – For creating new resource

- PUT – For any action involving DB modifications.

- DELETE – For deleting a DB record.

Authentication: Way to provide/check user access to a resource.

HTTP Sessions – Way to uniquely identify the current interaction session. Managed at backend (At server).

Cookies: Way to store user state in browser. Managed at front end (At browser).

Local Storage: LocalStorage is a type of web storage that allows Javascript websites and apps to store and access data right in the browser with no expiration date.

CRUD Operations

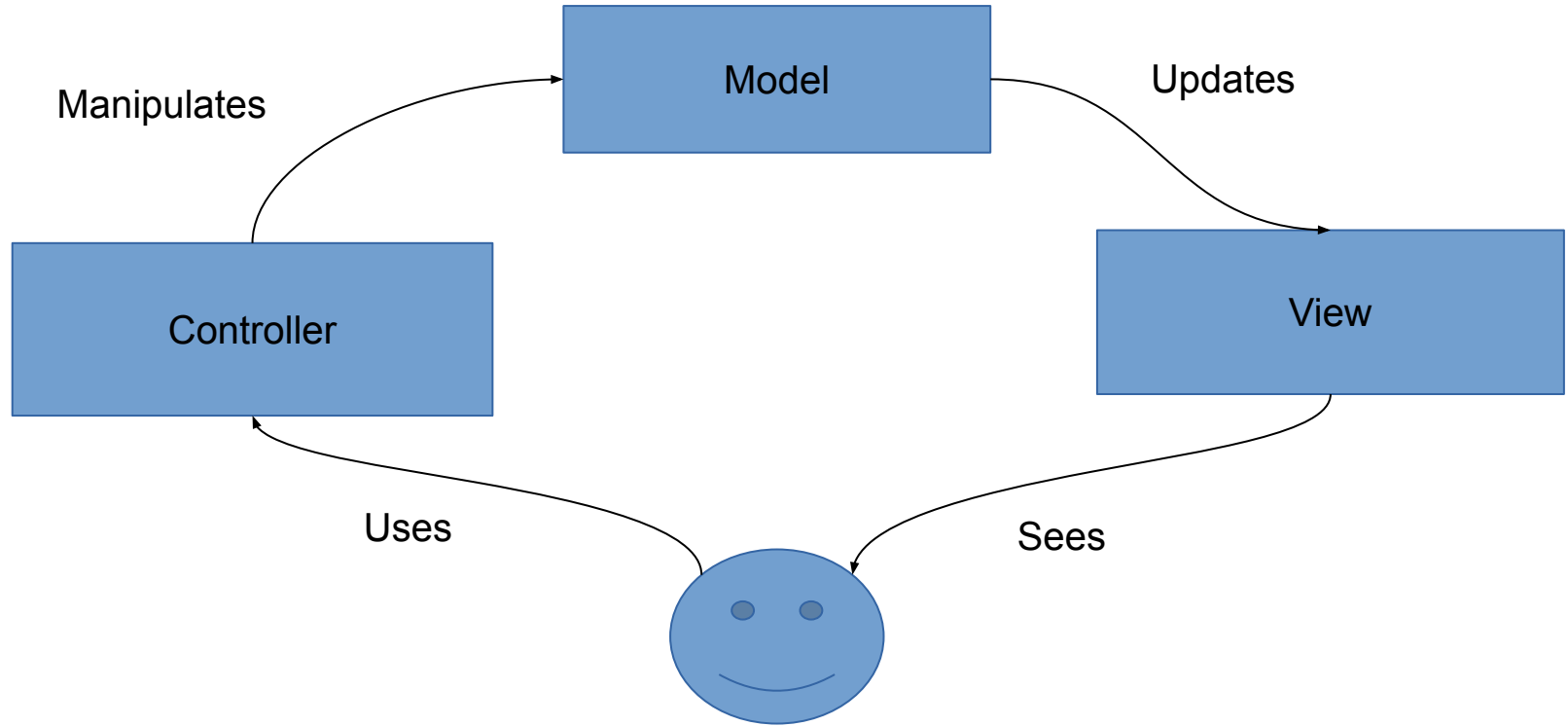
C – Create entry in DB

R – Retrieve any record from DB

U – Update an existing record in DB

D – Delete a record from DB

Model View Controller



Frontend technologies

- Markup Language
 - HTML: Used to create content
- Programming language
 - Javascript: Used to create interaction
 - Angular, React.js
- Styling
 - CSS (Cascading style sheets): Used to present the content
 - Less, SASS

Django (Python)

- Web application framework, written in Python, maintained by the Django Software Foundation
- Full-stack framework
- Patterns and principles
 - Reusability and pluggability
 - Object-relational mapper (ORM)
 - Explicit is better than implicit
 - Don't repeat yourself (DRY)
 - MVC
- Python application servers: uWSGI, Gunicorn
- Some sites using Django:
 - <http://bitbucket.org/>, <http://disqus.com/>, <http://www.pinterest.com/>

Rails (Ruby)

- Web application framework written in Ruby programming language maintained by Rails core team.
- Full-stack framework
- Patterns and principles
 - Active record pattern (used in ORM)
 - Convention over configuration
 - Don't repeat yourself (DRY)
 - MVC
- Also have client side scripting (CoffeeScript) integrated into the stack.
- Ruby application servers: Passenger, Unicorn, Puma
- Some sites using Rails:
 - <http://twitter.com>, <http://www.slideshare.net/>, <http://www.groupon.com/>,
<http://github.com/>

Node.js (Express)

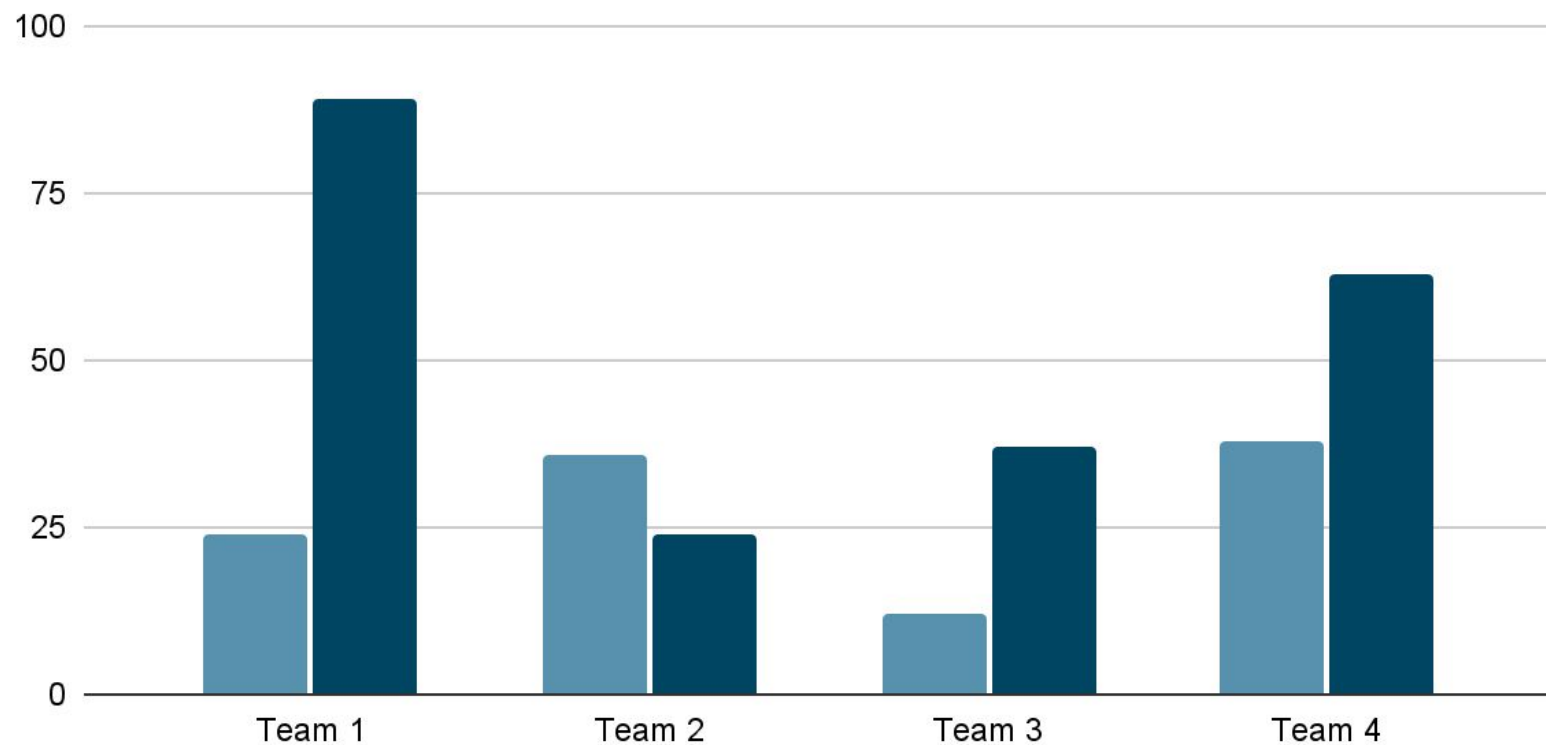
- Node.js is an asynchronous event-driven JavaScript runtime built on Chrome's V8 JavaScript engine.
- Express is a minimal and flexible Node.js web application framework.
- Full-stack framework
- Patterns and principles
 - small core & small modules
 - small surface area
 - simplicity and pragmatism
 - Don't repeat yourself (DRY)
 - MVC
- Some sites using Nodejs:
 - <http://netflix.com>, <http://www.paypal.net/>, <https://www.linkedin.com/>,
<https://www.uber.com/>

Marks For students

Name	Roll No	Branch	Marks
Ekansh	26	CSE	55
Ayush	19	CSE	56
Neeraj	44	CSE	57
Vikas	53	CHE	44

Points scored

Period 1 Period 2



1

Vestibulum congue tempus

Lorem ipsum dolor sit amet, consectetur
adipiscing elit, sed do eiusmod tempor.
Donec facilisis lacus eget mauris.

2

Vestibulum congue tempus

Lorem ipsum dolor sit amet, consectetur
adipiscing elit, sed do eiusmod tempor.
Donec facilisis lacus eget mauris.

3

Vestibulum congue tempus

Lorem ipsum dolor sit amet, consectetur
adipiscing elit, sed do eiusmod tempor.
Donec facilisis lacus eget mauris.