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**Research Task**

**MVC (Model-View-Controller)**:

MVC is a software architectural pattern that divides an application into three interconnected components: Model (data and business logic), View (user interface), and Controller (manages user input and updates the model and view accordingly). For example, in a web development context, frameworks like Ruby on Rails implement MVC to separate the application's concerns and enhance maintainability.

**Authentication and Authorization**

Authentication is the process of verifying a user's identity, while authorization involves granting or denying access to specific resources based on the authenticated user's permissions. An example technology is OAuth, which allows users to log in using their existing social media credentials (authentication) and provides secure access to third-party applications (authorization).

**ORM (Object-Relational Mapping)**

ORM is a programming technique that allows developers to interact with relational databases using an object-oriented paradigm. An example is Hibernate in Java, which maps Java objects to database tables, simplifying database interactions and reducing the need for complex SQL queries.

**Websockets**

Websockets is a communication protocol that enables real-time, bidirectional communication between a client and a server over a single, long-lived connection. An example technology is Socket.io, which facilitates real-time web applications by enabling instant data exchange between clients and servers.

**Microservices**

Microservices is an architectural approach where an application is built as a collection of small, independent services that communicate with each other through APIs. For instance, Netflix uses microservices to scale and enhance the agility of its streaming platform, allowing for rapid development and deployment of individual services.

**Git**

Git is a distributed version control system used for tracking changes in source code during software development. GitHub and GitLab are examples of platforms built on Git, providing collaborative tools for developers to manage and share their code repositories.

**Responsive Design**

Responsive design is a web development approach that ensures websites or applications adapt to different screen sizes and devices. Bootstrap is an example framework that facilitates responsive design by providing a grid system and components that automatically adjust to varying screen dimensions.

**DevOps**

DevOps is a set of practices that combines software development and IT operations to enhance collaboration and productivity. Tools like Jenkins automate the software delivery process, allowing for continuous integration and continuous delivery (CI/CD) and fostering a culture of collaboration between development and operations teams.

**Progressive Web Apps (PWAs)**

PWAs are web applications that offer a native app-like experience by leveraging modern web technologies. An example is Twitter Lite, which provides a fast, reliable, and engaging user experience, even in low-network conditions, through the use of service workers and other PWA principles.

**Serverless Computing**

Serverless computing is a cloud computing model where cloud providers manage infrastructure, automatically allocating resources based on demand. AWS Lambda is an example service that enables serverless computing by allowing developers to run code without provisioning or managing servers, paying only for the compute time consumed.

**JWT (JSON Web Token)**

JWT is a compact, URL-safe means of representing claims between two parties, commonly used for authentication and information exchange. For instance, in authentication processes, a server may issue a JWT as a token that a client can use for subsequent secure communication.

**State Management**

State management involves handling and maintaining the state of an application, ensuring data consistency. In front-end development, tools like Redux in React applications help manage the state in a predictable and centralized manner, simplifying complex state interactions and updates.