Question 1

a. Backend Framework: For the backend framework, I would prefer Node.js. Node.js is an excellent choice for developing web applications that require high scalability and real-time data exchange. Node.js is fast, efficient, and easy to learn. It has a vast and active developer community, and there are numerous libraries and modules available to streamline the development process. Additionally, Node.js can be used with a variety of databases, making it a versatile choice for web application development.

b. Frontend Framework: For the frontend framework, I would prefer React.js. React.js is a popular JavaScript library for building user interfaces. It has a component-based architecture, which makes it easy to build reusable and scalable UI components. React.js also provides excellent performance and makes it easy to build responsive and dynamic user interfaces. React will efficiently update and render just the right component when the data changes. The declarative view makes the code more predictable and easier to debug.

c. Database: For the database, I would choose PostgreSQL. PostgreSQL is a powerful, open-source relational database management system (RDBMS) that provides excellent performance and scalability. It is also ACID-compliant, which ensures data consistency and reliability. PostgreSQL is an excellent choice for web applications that require complex data relationships and transactions.

d. Version Control: For version control of the codebase, I would use Git. Git is a popular distributed version control system that provides excellent collaboration features and allows developers to work on multiple branches simultaneously. Git is also easy to learn and has a vast and active developer community.

e. Media Storage: For media storage, I would choose Amazon S3. Amazon S3 is a highly scalable and reliable cloud-based storage service that provides excellent performance and durability. It is also easy to integrate with other AWS services and provides a wide range of features, including data encryption and versioning.

f. Deployment and Web Server: For deployment, I would use AWS Elastic Beanstalk. AWS Elastic Beanstalk is a fully managed service that makes it easy to deploy and manage web applications. It provides automatic scaling, load balancing, and monitoring, making it an excellent choice for web applications that require high scalability and availability. For the web server, I would use NGINX. NGINX is a fast and efficient web server that provides excellent performance and scalability. It is also easy to configure and provides a wide range of features, including caching, load balancing, and SSL/TLS encryption.