a. Which backend framework would you prefer to use and why?

I would prefer to use Django because it is a free and open souce python based web framework.Because :
- It is based on Model View Template Architecture where the views include a set of python functions that will allow us to render the template or texts which picks up the data from the model and from the templates it picks up the HTML structure
- It is easier to make data driven database based web application.
- It also helps to easily change the database.
- Emphasizes on reusability and plugeability components
- Uses DRY(don't repeat yourself) priniciple with full swing
- Built in admin Panel for easy customization
- Provides easy integration with third party application

b. Which frontend framework would you prefer to use and why?

React framework a javascript library for building user interfaces.
- Used to build components that represent logical reusable parts of ui
- Single Page Applications
- Return value from this function is html or ui which is written in a speacial syntax called jsx which allows us to easily combine the javascript with html
- React router helps in having multiple pages in single page application
- Component lifecycle include: mounting,updating and unmounting
- Virtal Dom- Dom is declarative and helps in making interactive UIs by changing the state of the component and react takes care of updating the DOM according to it
- One way data Binding for better view of application
- Composable where codes can be divided and put into custom components and then utilize those components and integrate them into one place
- React dev tools are useful and advanced
- Framework comes with a developer tool set
- Enhanced performance and speed
- Debugging is faster and easier

c. Which database would you prefer to use and why?

I would prefer to use PostgreSQL databse because:
- It is general purpose and object-relational database management system,the most advanced open source database system widely used to build back end systems.
- Reliable and Flexible
- Free license
- Modern
- High level performance
- Helps to create highly scalable computing environments across their on-premise and cloud-based infrastructure
- Compatible with multiple programming languages
- Built-in support for multiple stored procedures

d. What would you use for version control of the codebase ?

GIT

- It is a free and open source control system designed to handle everything from small to very large projects with speed and efficiency
- Easy to learn
- Tiny footprint with lightning fast performance
- It has 3 states:
- ➤ A <u>modified</u> file has been changed but isn't committed to the database yer
- ➤ A <u>staged</u> file is set to go into next commit
- ➤ When a file is <u>committed</u>,the data has been stored in the database

e . Which platform would you prefer for media storage?

- Cloud storage enables webpages to serve large files without causing heavy traffic and load to the application database,reducing the system to load time and opffering a good user experience. It's services make application scalability easy.
- Reliable
- Responsible for data availability
- Using AWS to store media files, which will run on Django backend server.

f. Where would you deploy your application and which web server would you use and why?

AWS amplify- It is an essential aws service for building,deploying and hosting apps
NGINX Open Source because:

- Freedom to innovate without being constrained by infrastructure.
- Save time by performing common tasks through the built-in NGINX Plus API.
- Auto indexing
- Load balancing support
- API Gateway
- IPv6 compatible
- High performance