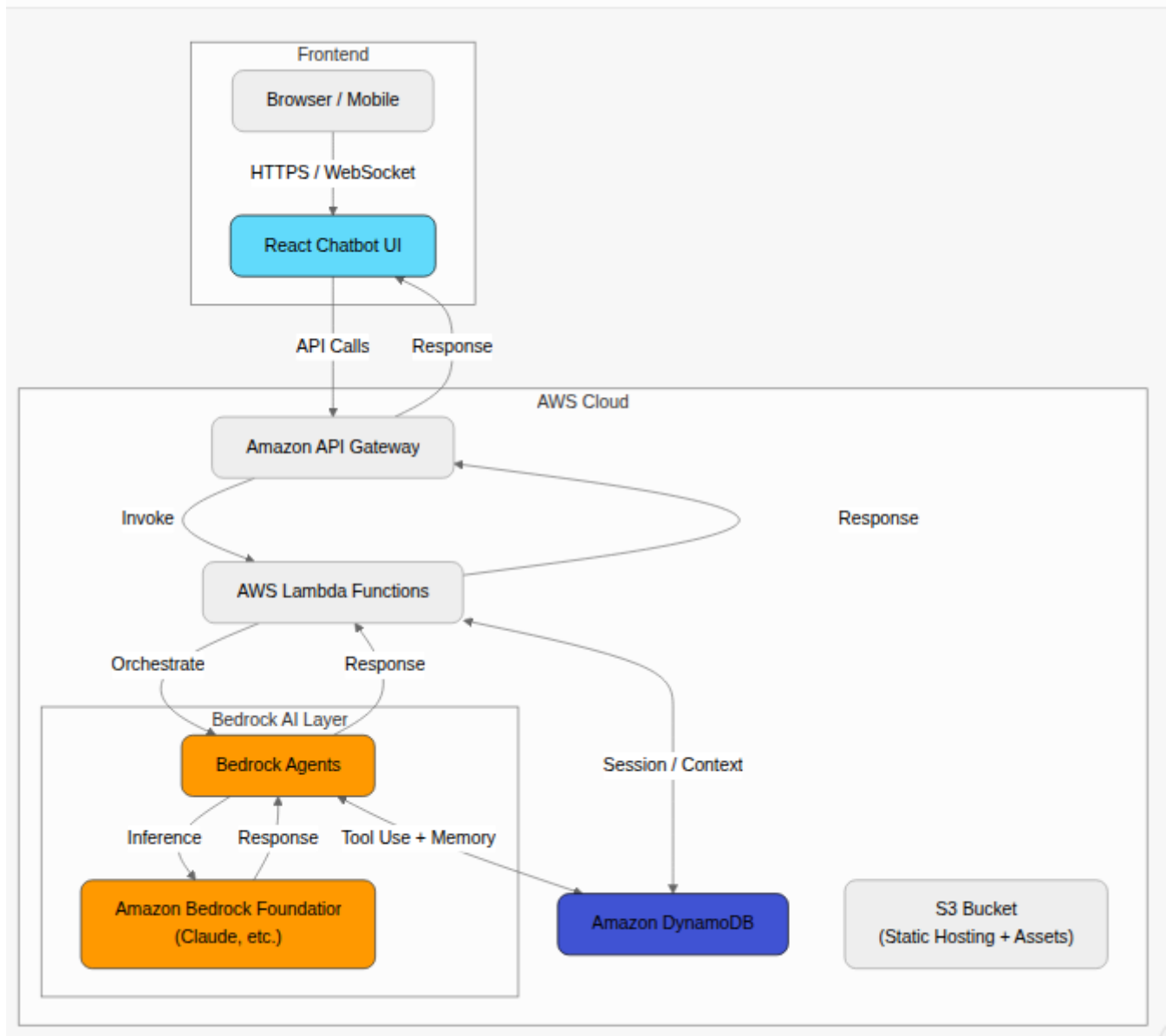


High-Level Architecture Approaches Multi-Agent App



High-Level Architecture Description:

Components:

1. Frontend (React Chatbot)

- Modern React + TypeScript app
- Real-time chat interface (using WebSockets or polling)
- Hosted on S3 + CloudFront (or AWS Amplify)
- Handles user authentication (Cognito recommended)

2. API Layer

- **Amazon API Gateway** as the entry point
- Supports REST + WebSocket for streaming responses

3. Backend Processing (AWS Lambda)

- Handles business logic, authentication, rate limiting
- Integrates with Bedrock Agent

4. AI Core (Amazon Bedrock)

- **Bedrock Agents**: Orchestrates reasoning, tool calling, and multi-step tasks
- **Foundation Models**: Claude 3/3.5/Opus/Sonnet, etc.
- Agent can have:
 - Action groups (Lambda functions)
 - Knowledge bases
 - Session memory

5. Data Layer (Amazon DynamoDB)

- Stores:
 - Chat history / conversation threads
 - User sessions
 - Agent memory
 - Metadata

Recommended Enhancements:

- **Authentication**: Amazon Cognito
- **Streaming**: Use Bedrock's streaming API + WebSocket
- **Monitoring**: CloudWatch + X-Ray
- **CDN**: CloudFront
- **CI/CD**: AWS CodePipeline + Amplify