Architecture Diagrams for IDEframework
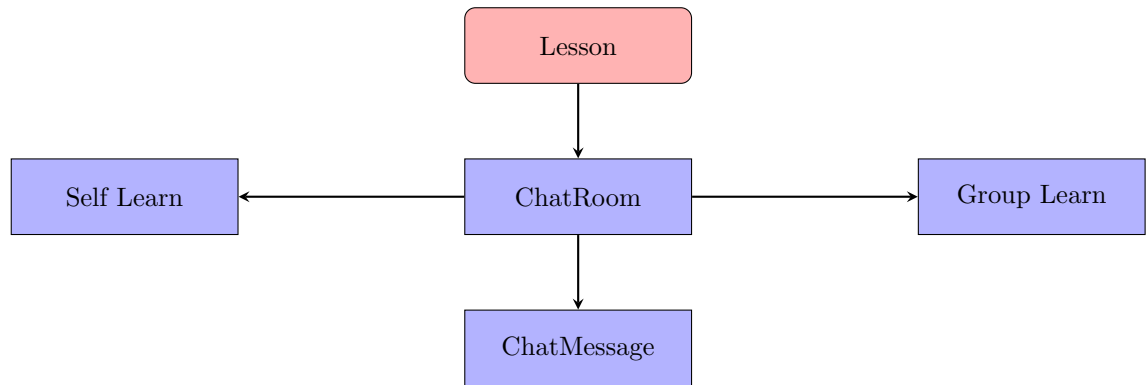
App Relationships

```
                    ┌─────────┐
                    │   IDE   │
                    └─────────┘
                         │
                         ▼
┌───────────┐      ┌─────────┐      ┌─────────────┐
│ Self Learn│◄─────│ Lesson  │─────►│ Group Learn │
└───────────┘      └─────────┘      └─────────────┘
                         │                  │
                         ▼                  │
                   ┌──────────────┐         │
                   │ AI Assistant │         │
                   └──────────────┘         │
                         │                  │
                         ▼                  ▼
                   ┌──────────┐
                   │ Group ID │
                   └──────────┘
```
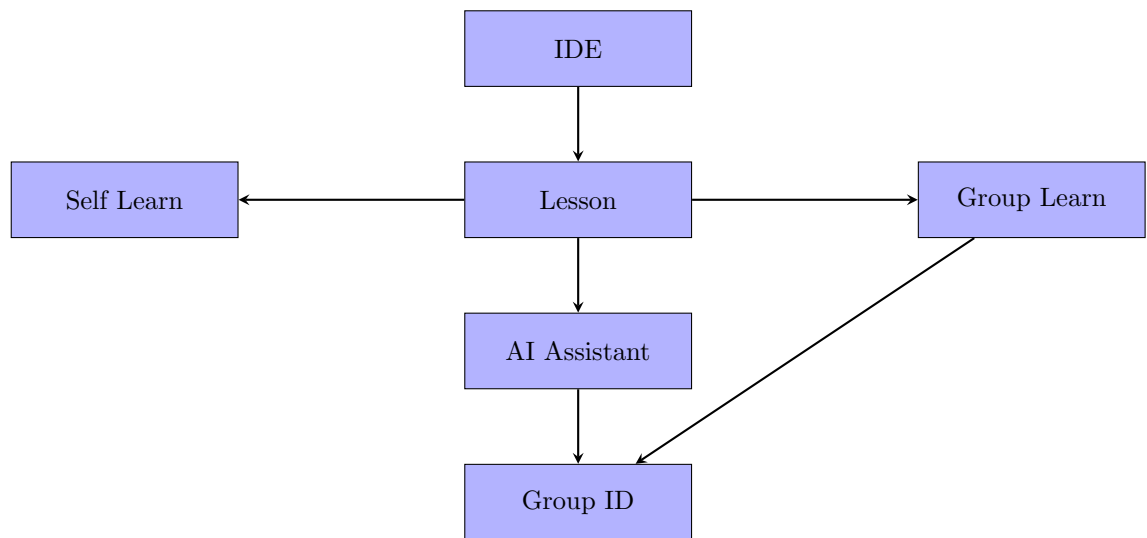
Component Relationships

```
                  ┌────────────────────────┐
                  │ Frontend (HTML, CSS, JS)│
                  └────────────────────────┘
                         │                  ▲
                         ▼                   \
┌──────────────┐  ┌──────────────────────┐  ┌──────────────────┐
│ AI Assistant │◄─│Backend (Django Framework)│─►│ WebSocket Server │
└──────────────┘  └──────────────────────┘  └──────────────────┘
                         │
                         ▼
                  ┌──────────────────────────┐
                  │Database (SQLite/PostgreSQL)│
                  └──────────────────────────┘
```
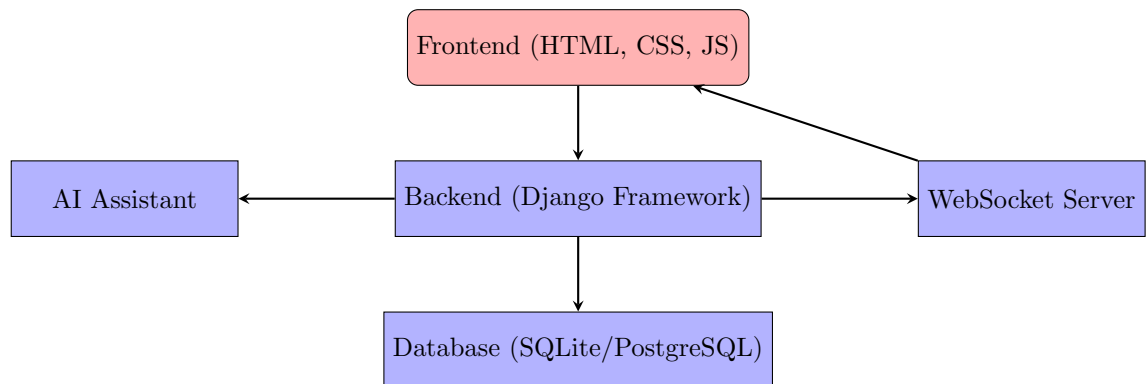
Internal Relationships of Lesson App

Lesson

Self Learn ← ChatRoom → Group Learn

ChatRoom → ChatMessage

Internal Relationships of AI Assistant App

AI Assistant

Mind Map Generation ← DeepSeek API → PDF Processing