



CS122B: Projects in Databases and Web Applications

Spring 2018

Notes 06: Frontend Backend Separation
Web Frontend + API Backend

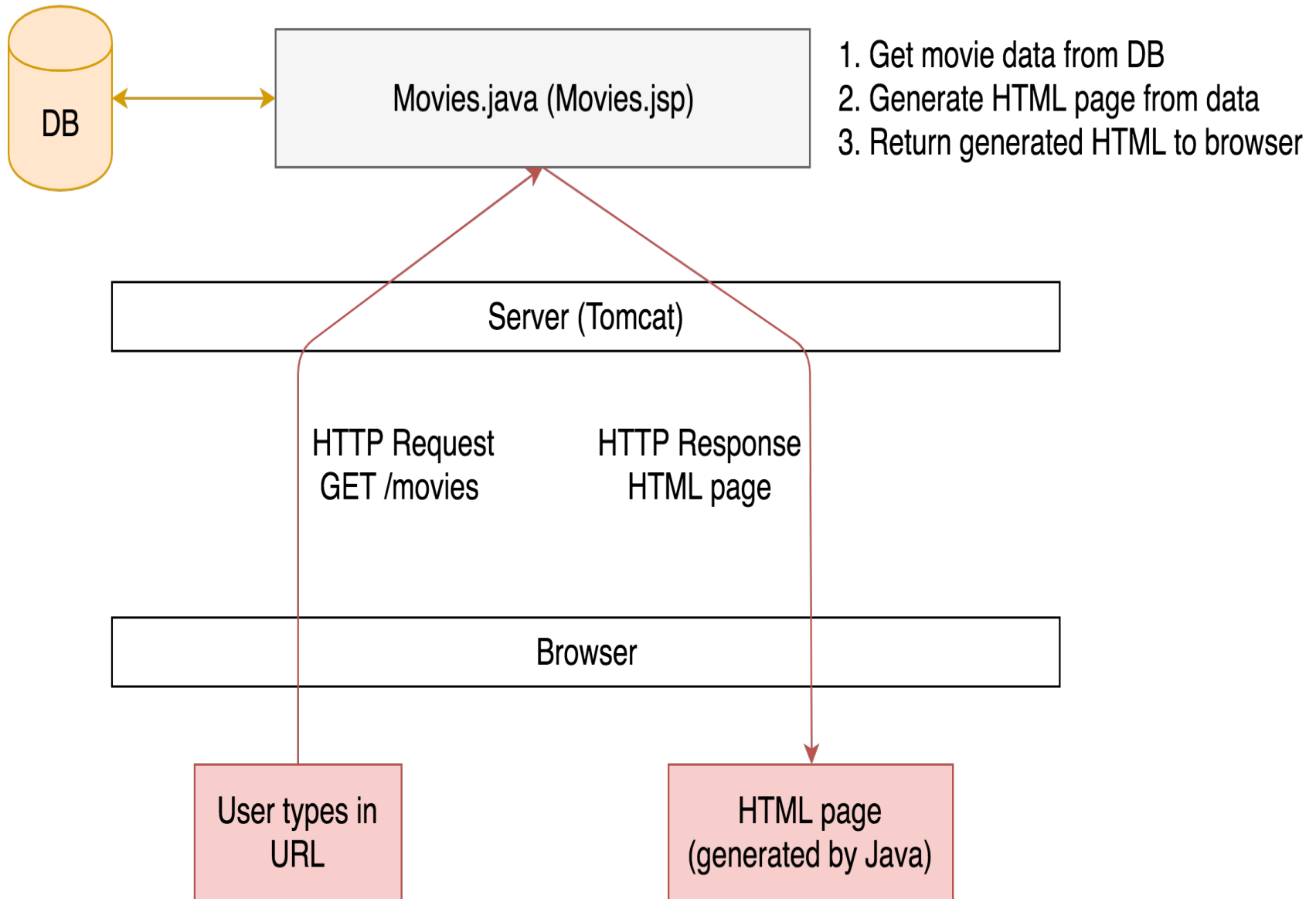
Professor Chen Li

Department of Computer Science

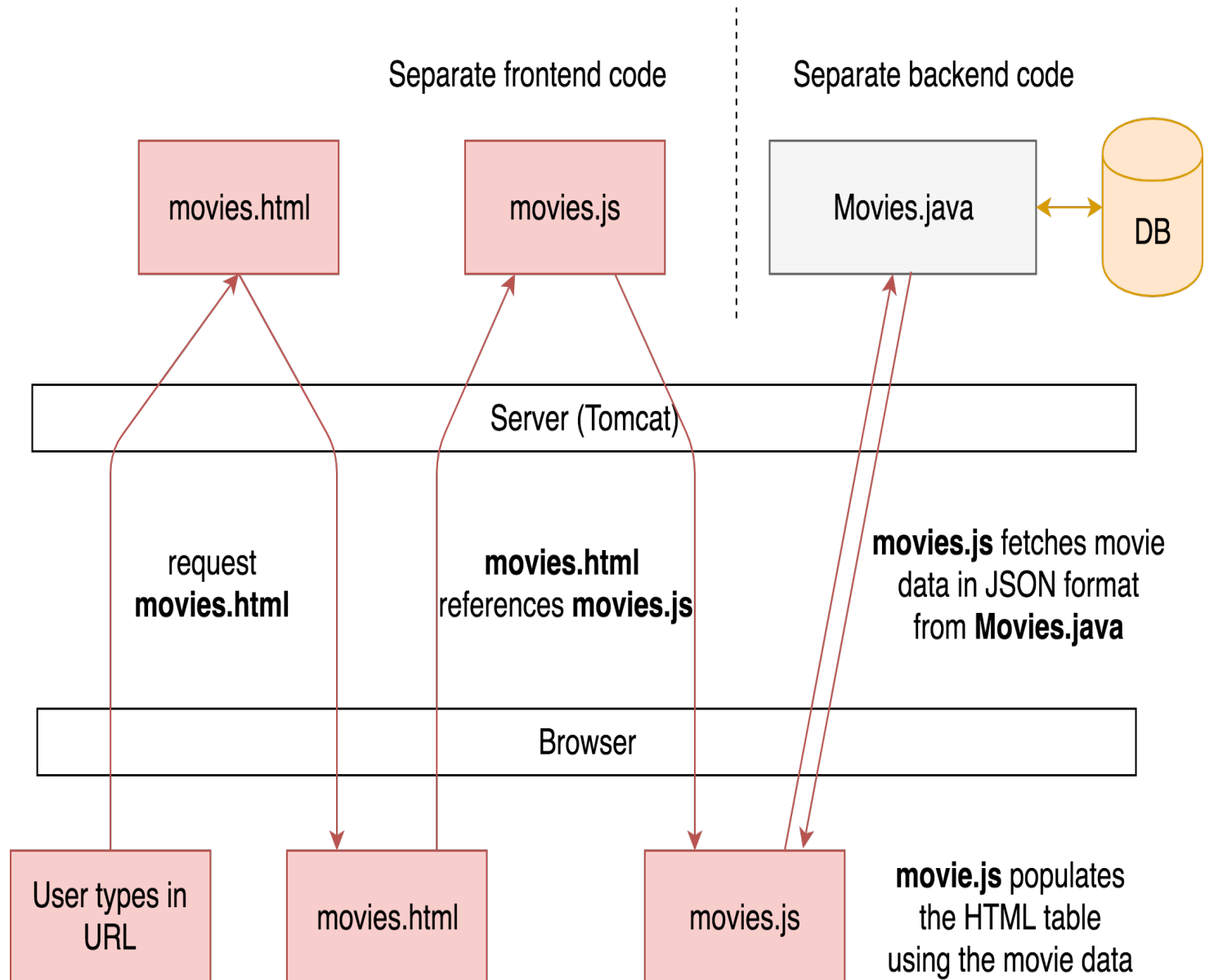
UC Irvine

Prepared by Zuozhi Wang

The old dynamic generated HTML

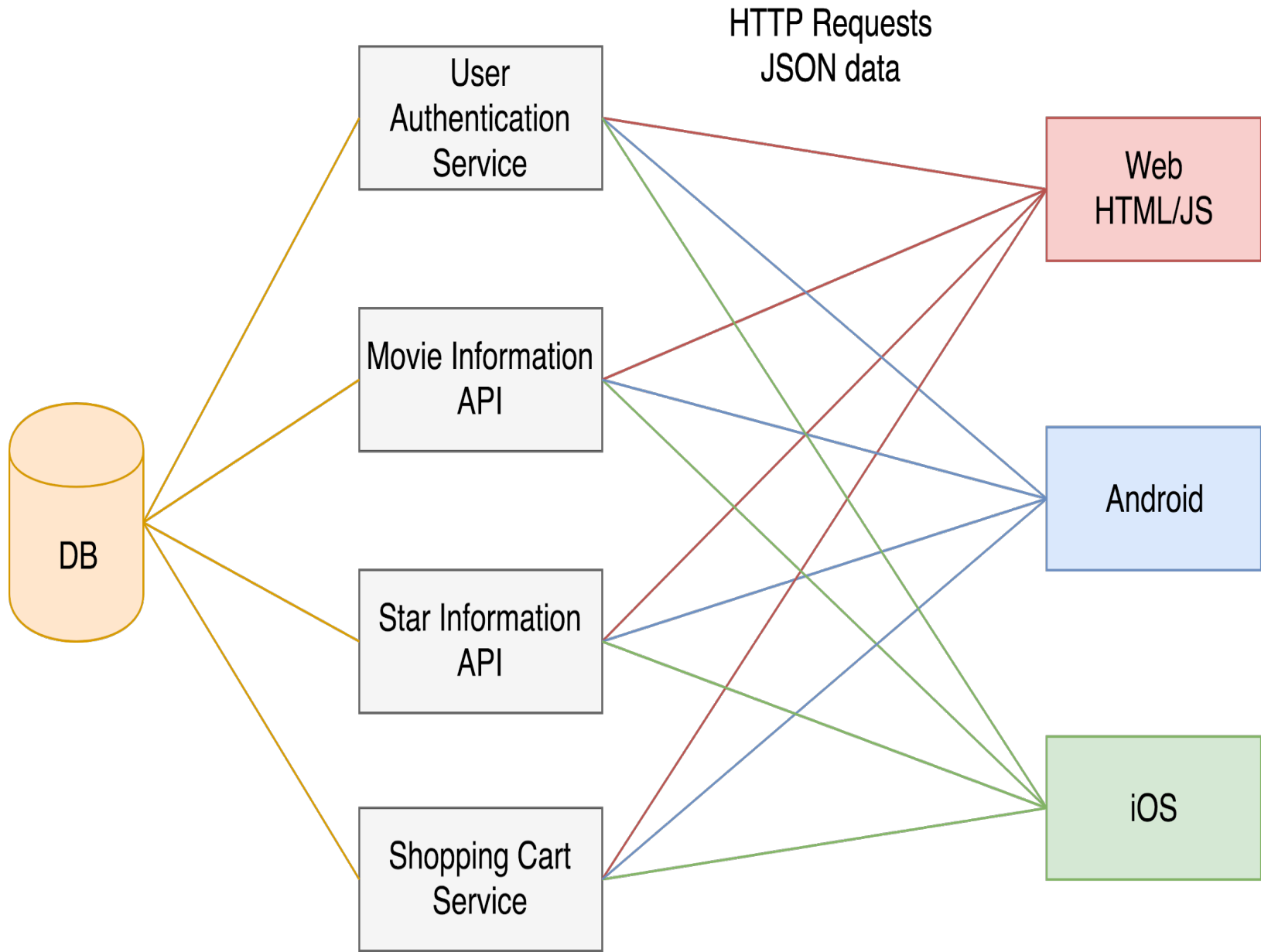


The new Web Frontend + API Backend



Backend: provides data in
RESTful API

Frontend: presents data to
the user



Benefits (1)

- Duty separation:
 - Backend concentrates on processing and manipulating data.
 - Frontend concentrates on how to present the data nicely to the user.
 - Extensive use of Javascript makes the website more responsive.

Benefits (2)

- Multiple UI clients (Web, Android, iOS) can share the same backend APIs
 - In the old dynamically generated HTML approach, Android and iOS applications can't reuse the same backend code.

Benefits (3)

- Separation team, development, and technology stack.
 - Frontend team and backend team can work separately after the API format is specified. Frontend team can use mock data in development without waiting the backend to be completed.
 - Frontend doesn't have to rely on backend languages (Java/PHP/C#/...).
 - The rise of frontend frameworks (Angular, React, ...).