

#40 : SpotTheDoc

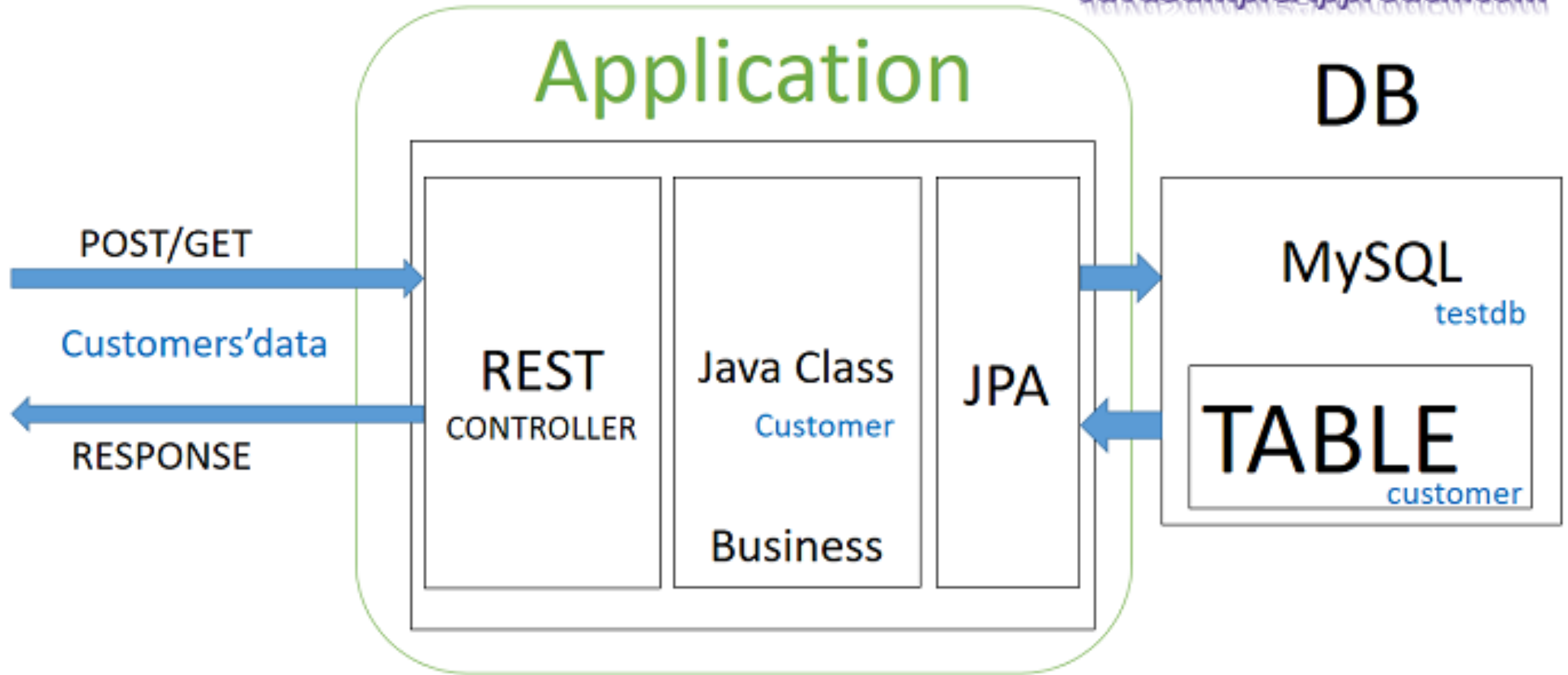
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System Overview - SpotTheDoc

- Health Management Portal
- Main Functionalities
 - Login/Register doctor and patient
 - Search for doctors
 - Schedule Appointment with a doctor



Sample Model implementation

```
@Entity
public class Doctor extends User implements Observer{
    private String name;
    private String phoneNo;
    private String speciality;
    private Status status;
    //ArrayList<Time> officehours;
    @Embedded
    private Address address;
    @ElementCollection
    @CollectionTable(name = "doctorAppointmentList")
    private List<Integer> doctorAppointmentList=new ArrayList<Integer>();

@Repository
public interface DoctorRepo extends CrudRepository<Doctor, String>{
    public List<Doctor> findByName(String name);
    public List<Doctor> findBySpeciality(String speciality);
    public List<Doctor> findByAddressNeighbourhoodLocation(String location);
}
```

Login Usecase

```
public RoleType login(String username, String password){  
    if (userRepo.exists(username)){  
        User temp=(User) userRepo.findOne(username);  
        if(temp.getPassword().equals(password))  
            return temp.getRole();  
    }  
    return RoleType.UnRegistered;  
}
```

Sample Controller class

```
@RestController
public class LoginController {
    @Autowired
    private UserService userService;
    @Autowired
    private PatientService patientService;
    @Autowired
    private DoctorService doctorService;
    @Autowired
    private DoctorRepo doctorRepo;
    @Autowired
    private PatientRepo patientRepo;

    @RequestMapping(method=RequestMethod.POST , value="/login")
    public RoleType loginRequest(@RequestParam String username,@RequestParam String password) {
        return userService.login(username, password);
    }

    @RequestMapping(method=RequestMethod.POST,value= "/registerPatient")
    public String registerPatientRequest(@RequestParam String name, @RequestParam String username,@RequestParam String password) {
        if (!userService.checkUserNameExists(username)){
            return patientService.addPatient(username,password,name);
        }
        return "Failed. Username exists";
    }
}
```

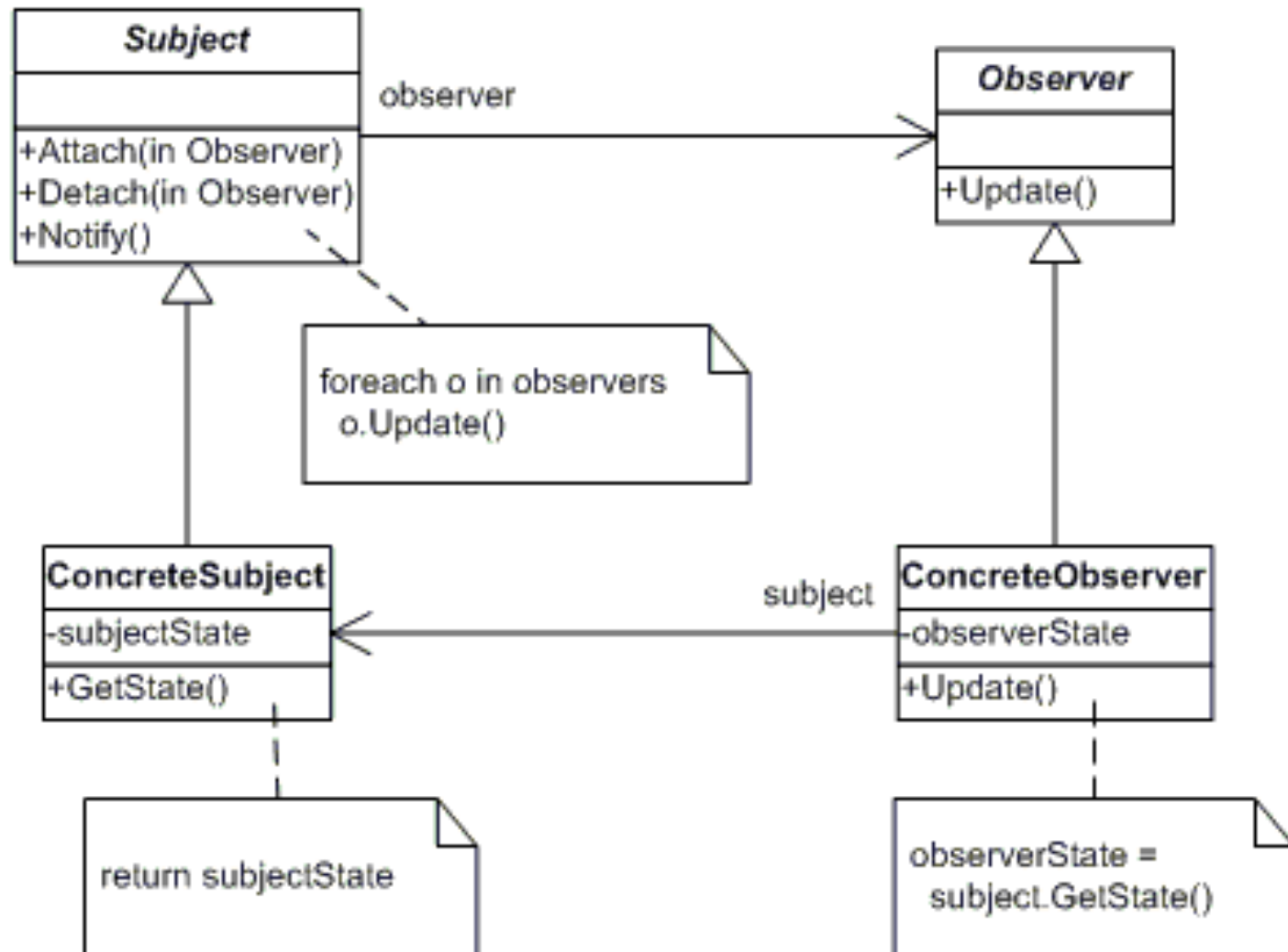
Schedule appointment Use case

```
public String scheduleAppointment(String doctorUserName,String patientUserName,Date d){
    if(patientRepo.exists(patientUserName) && doctorRepo.exists(doctorUserName)){
        int id=(int)appointmentRepo.count();
        Appointment a=new Appointment (id,doctorUserName,patientUserName,d);

        if(appointmentRepo.findByStartDate(d).isEmpty()){
            Patient p=patientRepo.findOne(patientUserName);
            a.attach(p);
            Doctor d1=doctorRepo.findOne(doctorUserName);
            a.attach(d1);
            a.setStatus(Status.Pending);
            patientRepo.save(p);
            doctorRepo.save(d1);
            appointmentRepo.save(a);

            return "Appointment Created successfully - waiting for doctor approval.";
        }
        return "Please choose another time slot";
    }
    return "Patient or Doctor does not exist";
}
```

Observer Design Pattern



SpotTheDoc Observer Design Pattern

```
public interface Subject {  
  
    public void attach(Observer o);  
    public void detach(Observer o);  
    public void notify(Appointment appointment);  
  
}
```

```
public interface Observer {  
  
    public void update(Appointment appointment);  
  
}
```

```
@Entity  
public class Appointment implements Subject {  
  
    @Override  
    public void notify(Appointment appointment) {  
        // TODO implement here  
        for (Observer observer : observers) {  
            observer.update(appointment);  
            //call update appointment list on doctor  
        }  
    }  
}
```

```
@Entity  
public class Patient extends User implements Observer {  
  
    @Override  
    public void update(Appointment value) {  
        // TODO implement here  
        if (value.getStatus()==Status.Pending){  
            this.patientAppointmentList.add(value.getAppointmentId());  
        }else if (value.getStatus()==Status.Rejected){  
            this.patientAppointmentList.remove(value.getAppointmentId());  
        }  
    }  
}
```

Thank You

Video Demo Link : https://github.com/prashilbhimani/SpotTheDoc/blob/master/40_SpotTheDoc_Video.mp4

Final Report : https://github.com/prashilbhimani/SpotTheDoc/blob/master/40_SpotTheDoc_part6.pdf