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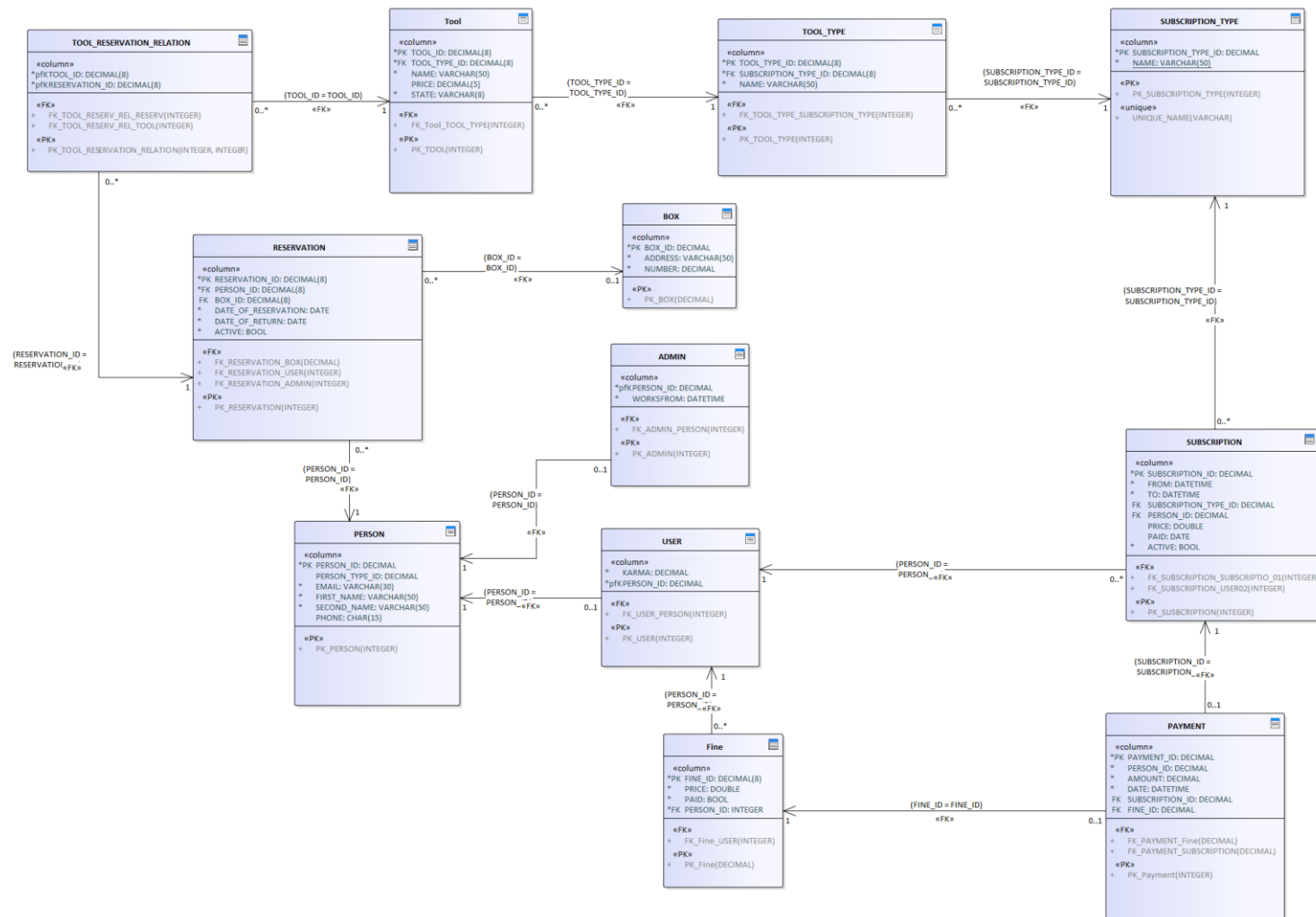
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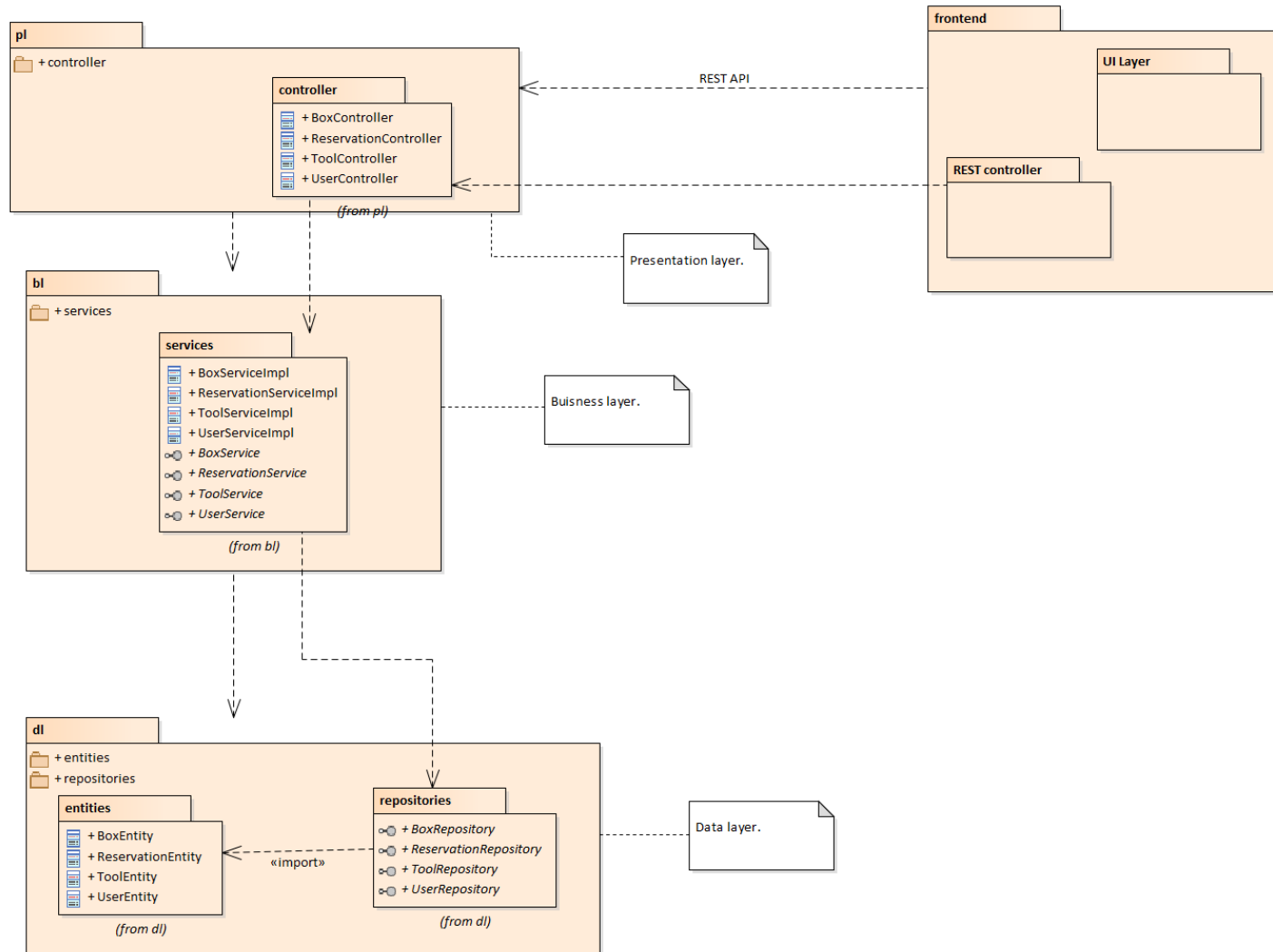
Used technology

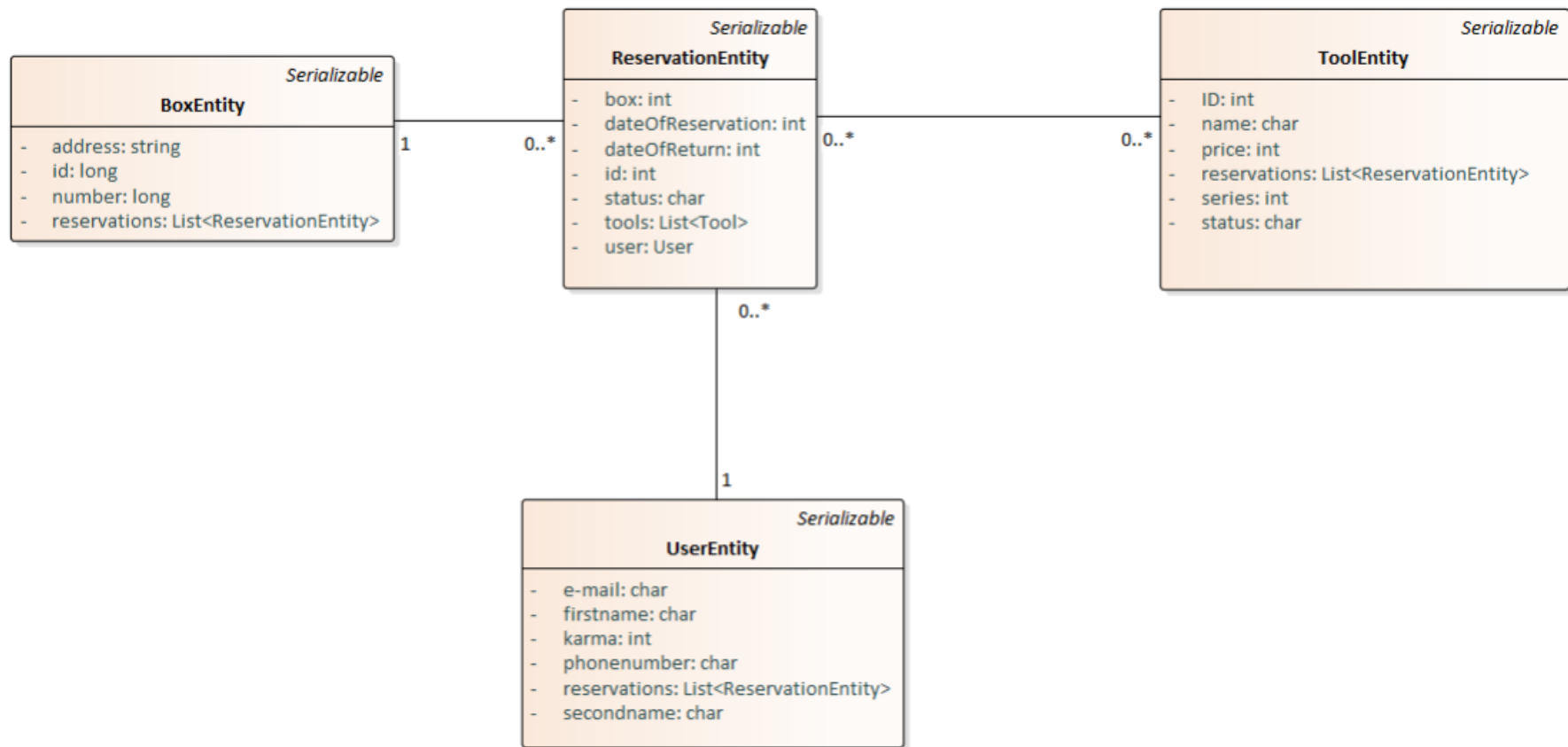
- Backend framework
 - Java Spring
 - Hibernate
 - JUnit 5
- Database
 - MySQL
- Frontend
 - jQuery + HTML5
 - Bootstrap UI

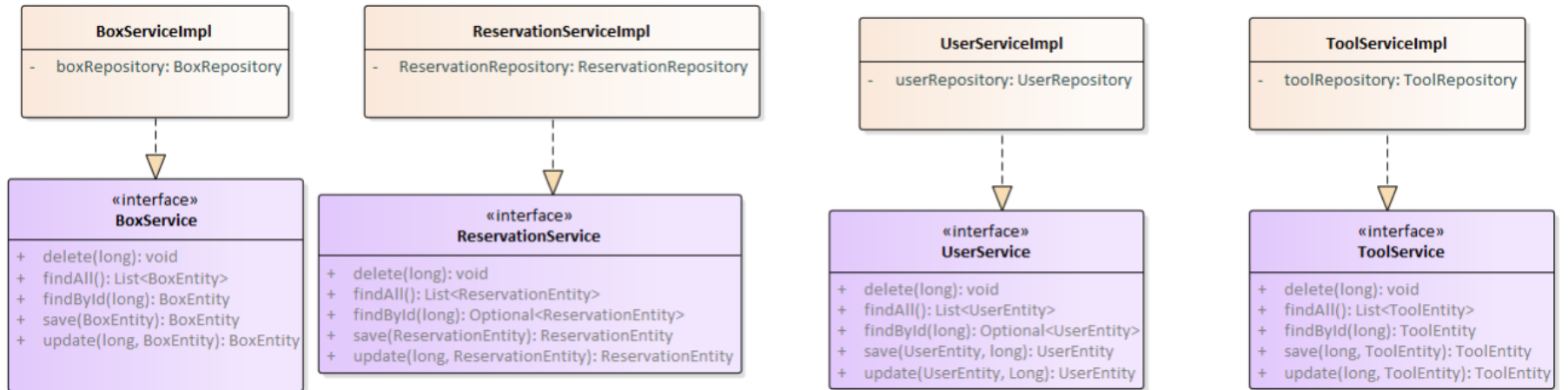
Database Model



Package Diagram







Tool Controller

```
@RestController
@RequestMapping("/tool")
@CrossOrigin
public class ToolController {
    @Autowired
    private ToolService toolService;

    @GetMapping(value = "/", produces = "application/json")
    public ResponseEntity<?> getAll() {
        List<ToolEntity> tools = toolService.findAll();
        if(tools.isEmpty()) {
            return new ResponseEntity<>( body: "No tools.", HttpStatus.OK);
        }
        else return new ResponseEntity(tools, HttpStatus.OK);
    }

    @GetMapping(value =("/{id}", produces = "application/json")
    public ResponseEntity<ToolEntity> getReservation(@PathVariable(value = "id") Long id) {
        Optional<ToolEntity> tool = toolService.findById(id);
        if (!tool.isPresent()) {
            return ResponseEntity.badRequest().build();
        }
        return ResponseEntity.ok(tool.get());
    }

    @PostMapping(produces = "application/json")
    public ToolEntity createTool(@Valid @RequestBody ToolEntity tool) { return toolService.save(tool); }

    @PutMapping(value =("/{id}", produces = "application/json")
    public ToolEntity update(@PathVariable(value = "id") Long id, @Valid @RequestBody ToolEntity tool) {
        return toolService.update(id, tool);
    }

    @DeleteMapping(value =("/{id}", produces = "application/json")
    public ResponseEntity<?> delete(@PathVariable(value = "id") Long id) {
        if (!toolService.findById(id).isPresent()) {
            return ResponseEntity.badRequest().build();
        }
        toolService.delete(id);

        return ResponseEntity.ok().build();
    }
}
```

ToolEntity Class

```
@Entity
@Table(name = "TOOL")
public class ToolEntity implements Serializable {
    @Id
    @GeneratedValue
    @Column(name = "TOOL_ID", nullable = false)
    private Long id;
    @Column(name = "NAME", nullable = false)
    private String name;
    @Column(name = "PRICE", nullable = false)
    private Integer price;
    @ManyToMany(mappedBy = "tools")
    private List<ReservationEntity> reservations;

    public ToolEntity() {
    }

    public ToolEntity(String name, Integer price, List<ReservationEntity> reservations) {
        this.name = name;
        this.price = price;
        this.reservations = reservations;
    }

    public Long getId() { return id; }

    public void setId(Long id) { this.id = id; }

    public String getName() { return name; }

    public void setName(String name) { this.name = name; }

    public Integer getPrice() { return price; }

    public void setPrice(Integer price) { this.price = price; }

    public List<ReservationEntity> getReservations() { return reservations; }

    public void setReservations(List<ReservationEntity> reservations) { this.reservations = reservations; }
```

ToolService Class

```
@Service
public class ToolServiceImpl implements ToolService {

    @Autowired
    private ToolRepository repository;

    @Override
    public List<ToolEntity> findAll() { return repository.findAll(); }

    @Override
    public Optional<ToolEntity> findById(Long id) { return repository.findById(id); }

    @Override
    public ToolEntity save(ToolEntity tool) { return repository.save(tool); }

    @Override
    public ToolEntity update(Long id, ToolEntity tool) {
        return repository.save(tool);
    }

    @Override
    public void delete(Long id) { repository.deleteById(id); }
```

Frontend Prototype

Tool Reservation

This page has a list of all tools available for rental. Use the search below to find the one you need.

Search

e.g "Soldering iron", "3D Printer"...

3D Printer - Prusa i3 mk2

This is a 3d printer. It can print things out of plastic. It's made by a cool Czech company, run by a dude called Josef Průša. It's probably the best hobbyist 3d printer in the world. Don't burn yourself.

Available | Rental price: 100kc/day | ID: 696970

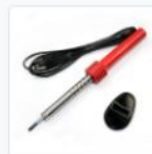


Reserve

Soldering Iron - Siemens 40W

Soldering iron to solder wires together

Available | Rental price: 30kc/day | ID: 420420



Frontend REST controller example

```
1  function getReservations(callback){
2    $.post("/endpoint", res => {
3      if(callback === "function"){callback(res);}
4    }).error(e => {
5      console.log(e);
6    })
7  }
8
9  function getAvailableTools(callback){
10   $.get("/reservation", res => {
11     if(callback === "function"){callback(res);}
12   }).error(e => {
13     console.log(e);
14   })
15 }
16
17 function reserveTool(id, dateFrom, dateTo, userID, callback){
18   $.post("/reservation", {
19     id: id,
20     dateFrom: dateFrom,
21     dateTo: dateTo,
22     userID: userID
23   }, res => {
24     if(callback === "function"){callback(res);}
25   }).error(e => {
26     console.log(e);
27   })
28 }
29 }
```

