第7章移动端开发-体检预约

1. 体检预约流程

用户可以通过如下操作流程进行体检预约:

- 1、在移动端首页点击体检预约,页面跳转到套餐列表页面
- 2、在套餐列表页面点击要预约的套餐,页面跳转到套餐详情页面
- 3、在套餐详情页面点击立即预约,页面跳转到预约页面
- 4、在预约页面录入体检人信息,包括手机号,点击发送验证码
- 5、在预约页面录入收到的手机短信验证码,点击提交预约,完成体检预约

2. 体检预约

2.1 页面调整

在预约页面(/pages/orderInfo.html)进行调整

2.1.1 展示预约的套餐信息

第一步:从请求路径中获取当前套餐的id

```
<script>
  var id = getUrlParam("id");//套餐id
</script>
```

第二步: 定义模型数据setmeal, 用于套餐数据展示

```
var vue = new Vue({
    el:'#app',
    data:{
        setmeal:{},//套餐信息
        orderInfo:{
            setmealId:id,
            sex:'1'
        }//预约信息
    }
});
```

```
<div class="card">
 <div class="">
   <img :src="'http://pqjroc654.bkt.clouddn.com/'+setmeal.img"</pre>
width="100%" height="100%" />
 </div>
 <div class="project-text">
   <h4 class="tit">{{setmeal.name}}</h4>
   {{setmeal.remark}}
   <span>{{setmeal.sex == '0' ? '性别不限' : setmeal.sex == '1' ?
'男':'女'}}</span>
       <span>{{setmeal.age}}</span>
   </div>
  <div class="project-know">
   <a href="orderNotice.html" class="link-page">
     <i class="icon-ask-circle"><span class="path1"></span><span</pre>
class="path2"></span></i>
     <span class="word">预约须知</span>
     <span class="arrow"><i class="icon-rit-arrow"></i></span>
   </a>
 </div>
</div>
```

第三步: 在VUE的钩子函数中发送ajax请求,根据id查询套餐信息

```
mounted(){
  axios.post("/setmeal/findById.do?id=" + id).then((response) => {
    this.setmeal = response.data.data;
  });
}
```

2.1.2 手机号校验

第一步:在页面导入的healthmobile.js文件中已经定义了校验手机号的方法

```
/**

* 手机号校验
1--以1为开头;
2--第二位可为3,4,5,7,8,中的任意一位;
3--最后以0-9的9个整数结尾。
*/
function checkTelephone(telephone) {
    var reg=/^[1][3,4,5,7,8][0-9]{9}$/;
    if (!reg.test(telephone)) {
        return false;
    } else {
        return true;
    }
}
```

第二步: 为发送验证码按钮绑定事件sendValidateCode

```
//发送验证码
sendValidateCode(){
    //获取用户输入的手机号
    var telephone = this.orderInfo.telephone;
    //校验手机号输入是否正确
    if (!checkTelephone(telephone)) {
        this.$message.error('请输入正确的手机号');
        return false;
    }
}
```

2.1.3 30秒倒计时效果

前面在sendValidateCode方法中进行了手机号校验,如果校验通过,需要显示30秒倒计时效果

```
//发送验证码
sendValidateCode(){
    //获取用户输入的手机号
    var telephone = this.orderInfo.telephone;
    //校验手机号输入是否正确
    if (!checkTelephone(telephone)) {
        this.$message.error('请输入正确的手机号');
        return false;
    }
    validateCodeButton = $("#validateCodeButton")[0];
    clock = window.setInterval(doLoop, 1000); //一秒执行一次
}
```

其中,validateCodeButton和clock是在healthmobile.js文件中定义的变量,doLoop是在healthmobile.js文件中定义的方法

```
var clock = '';//定时器对象,用于页面30秒倒计时效果
var nums = 30;
var validateCodeButton;
//基于定时器实现30秒倒计时效果
function doLoop() {
   validateCodeButton.disabled = true;//将按钮置为不可点击
   nums--;
   if (nums > 0) {
       validateCodeButton.value = nums + '秒后重新获取';
   } else {
       clearInterval(clock); //清除js定时器
       validateCodeButton.disabled = false;
       validateCodeButton.value = '重新获取验证码';
       nums = 30; //重置时间
   }
}
```

2.1.4 发送ajax请求

在按钮上显示30秒倒计时效果的同时,需要发送ajax请求,在后台给用户发送手机验证码

```
//发送验证码
sendValidateCode(){
 //获取用户输入的手机号
 var telephone = this.orderInfo.telephone;
 //校验手机号输入是否正确
 if (!checkTelephone(telephone)) {
   this.$message.error('请输入正确的手机号');
   return false;
 }
 validateCodeButton = $("#validateCodeButton")[0];
 clock = window.setInterval(doLoop, 1000); //一秒执行一次
 axios.post("/validateCode/send4Order.do?telephone=" +
telephone).then((response) => {
   if(!response.data.flag){
     //验证码发送失败
     this.$message.error('验证码发送失败,请检查手机号输入是否正确');
   }
 });
}
```

创建ValidateCodeController,提供方法发送短信验证码,并将验证码保存到redis

```
package com.itheima.controller;
import com.aliyuncs.exceptions.ClientException;
import com.itheima.constant.MessageConstant;
import com.itheima.constant.RedisConstant;
import com.itheima.constant.RedisMessageConstant;
import com.itheima.entity.Result;
import com.itheima.utils.JedisUtils;
import com.itheima.utils.SMSUtils;
import com.itheima.utils.ValidateCodeUtils;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
import redis.clients.jedis.Jedis;
import redis.clients.jedis.JedisPool;
import java.util.Random;
/**
* 短信验证码
*/
@RestController
@RequestMapping("/validateCode")
public class ValidateCodeController {
    @Autowired
    private JedisPool jedisPool;
    //体检预约时发送手机验证码
   @RequestMapping("/send40rder")
    public Result send4Order(String telephone){
       Integer code = ValidateCodeUtils.generateValidateCode(4);//生成4位
数字验证码
       try {
            //发送短信
SMSUtils.sendShortMessage(SMSUtils.VALIDATE_CODE, telephone, code.toString(
));
        } catch (ClientException e) {
           e.printStackTrace();
           //验证码发送失败
            return new Result(false,
```

2.1.5 日历展示

页面中使用DatePicker控件来展示日历。根据需求,最多可以提前一个月进行体检预 约,所以日历控件只展示未来一个月的日期

```
<div class="date">
    <label>体检日期</label>
    <i class="icon-date" class="picktime"></i>
        <input v-model="orderInfo.orderDate" type="text" class="picktime"
readonly>
    </div>
```

```
//日期控件

var calendar = new datePicker();
calendar.init({
    'trigger': '.picktime',/*接钮选择器,用于触发弹出插件*/
    'type': 'date',/*模式: date日期; datetime日期时间; time时间; ym年月; */
    'minDate': getSpecifiedDate(new Date(),1),/*最小日期*/
    'maxDate': getSpecifiedDate(new Date(),30),/*最大日期*/
    'onSubmit': function() { /*确认时触发事件*/},
    'onClose': function() { /*取消时触发事件*/ }
    });

</pr>

</pr>
```

其中getSpecifiedDate方法定义在healthmobile.js文件中

```
//获得指定日期后指定天数的日期
function getSpecifiedDate(date,days) {
    date.setDate(date.getDate() + days);//获取指定天之后的日期
    var year = date.getFullYear();
    var month = date.getMonth() + 1;
    var day = date.getDate();
    return (year + "-" + month + "-" + day);
}
```

2.1.6 提交预约请求

为提交预约按钮绑定事件

```
//提交预约
submitOrder(){
 //校验身份证号格式
 if(!checkIdCard(this.orderInfo.idCard)){
   this.$message.error('身份证号码输入错误,请重新输入');
   return;
 }
 axios.post("/order/submit.do",this.orderInfo).then((response) => {
   if(response.data.flag){
     //预约成功, 跳转到预约成功页面
     window.location.href="orderSuccess.html?orderId=" +
response.data.data;
   }else{
     //预约失败,提示预约失败信息
     this.$message.error(response.data.message);
   }
 });
}
```

其中checkldCard方法是在healthmobile.js文件中定义的

```
/**
    * 身份证号码校验
    * 身份证号码为15位或者18位,15位时全为数字,18位前17位为数字,最后一位是校验位,可能为数字或字符X
    */
function checkIdCard(idCard){
    var reg = /(^\d{15}$)|(^\d{18}$)|(^\d{17}(\d|X|x)$)/;
    if(reg.test(idCard)){
        return true;
    }else{
        return false;
    }
}
```

2.2 后台代码

2.2.1 Controller

在health_mobile工程中创建OrderController并提供submitOrder方法

```
package com.itheima.controller;
import com.alibaba.dubbo.config.annotation.Reference;
import com.aliyuncs.exceptions.ClientException;
import com.itheima.constant.MessageConstant;
import com.itheima.constant.RedisConstant;
import com.itheima.constant.RedisMessageConstant;
import com.itheima.entity.Result;
import com.itheima.pojo.Member;
import com.itheima.pojo.Order;
import com.itheima.pojo.Setmeal;
import com.itheima.service.OrderService;
import com.itheima.utils.JedisUtils;
import com.itheima.utils.SMSUtils;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
import redis.clients.jedis.JedisPool;
import java.util.HashMap;
import java.util.Map;
/**
* 体检预约
*/
@RestController
@RequestMapping("/order")
public class OrderController {
   @Reference
    private OrderService orderService;
   @Autowired
    private JedisPool jedisPool;
    /**
     * 体检预约
     * @param map
     * @return
     */
    @RequestMapping("/submit")
    public Result submitOrder(@RequestBody Map map){
```

```
String telephone = (String) map.get("telephone");
       //从Redis中获取缓存的验证码, key为手机号
+RedisConstant.SENDTYPE ORDER
       String codeInRedis = jedisPool.getResource().get(
         telephone + RedisMessageConstant.SENDTYPE_ORDER);
       String validateCode = (String) map.get("validateCode");
       //校验手机验证码
       if(codeInRedis == null || !codeInRedis.equals(validateCode)){
           return new Result(false, MessageConstant.VALIDATECODE_ERROR);
       }
       Result result =null;
       //调用体检预约服务
       try{
           map.put("orderType", Order.ORDERTYPE_WEIXIN);
           result = orderService.order(map);
        }catch (Exception e){
           e.printStackTrace();
           //预约失败
           return result;
       if(result.isFlag()){
           //预约成功,发送短信通知
           String orderDate = (String) map.get("orderDate");
           try {
SMSUtils.sendShortMessage(SMSUtils.ORDER NOTICE, telephone, orderDate);
           } catch (ClientException e) {
               e.printStackTrace();
        }
       return result;
   }
}
```

2.2.2 服务接口

在health_interface工程中创建体检预约服务接口OrderService并提供预约方法

```
package com.itheima.service;

import com.itheima.entity.Result;
import java.util.Map;

/**

* 体检预约服务接口

*/
public interface OrderService {

    //体检预约
    public Result order(Map map) throws Exception;
}
```

2.2.3 服务实现类

在health_service_provider工程中创建体检预约服务实现类OrderServiceImpl并实现体检预约方法。

体检预约方法处理逻辑比较复杂,需要进行如下业务处理:

- 1、检查用户所选择的预约日期是否已经提前进行了预约设置,如果没有设置则无法进行 预约
- 2、检查用户所选择的预约日期是否已经约满,如果已经约满则无法预约
- 3、检查用户是否重复预约(同一个用户在同一天预约了同一个套餐),如果是重复预约则无法完成再次预约
- **4**、检查当前用户是否为会员,如果是会员则直接完成预约,如果不是会员则自动完成注册并进行预约
- 5、预约成功,更新当日的已预约人数

实现代码如下:

```
package com.itheima.service;
import com.alibaba.dubbo.config.annotation.Service;
import com.itheima.constant.MessageConstant;
import com.itheima.dao.MemberDao;
import com.itheima.dao.OrderDao;
import com.itheima.dao.OrderSettingDao;
import com.itheima.dao.SetmealDao;
import com.itheima.entity.Result;
import com.itheima.pojo.Member;
import com.itheima.pojo.Order;
import com.itheima.pojo.OrderSetting;
import com.itheima.pojo.Setmeal;
import com.itheima.utils.DateUtils;
import org.apache.poi.ss.usermodel.DateUtil;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.transaction.annotation.Transactional;
import java.text.ParseException;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.HashMap;
import java.util.List;
import java.util.Map;
/**
* 体检预约服务
@Service(interfaceClass = OrderService.class)
@Transactional
public class OrderServiceImpl implements OrderService{
    @Autowired
    private OrderSettingDao orderSettingDao;
   @Autowired
    private MemberDao memberDao;
   @Autowired
   private OrderDao orderDao;
    //体检预约
    public Result order(Map map) throws Exception {
        //检查当前日期是否进行了预约设置
```

```
String orderDate = (String) map.get("orderDate");
       Date date = DateUtils.parseString2Date(orderDate);
       OrderSetting orderSetting =
orderSettingDao.findByOrderDate(date);
       if(orderSetting == null){
           return new Result(false,
MessageConstant.SELECTED_DATE_CANNOT_ORDER);
       }
       //检查预约日期是否预约已满
       int number = orderSetting.getNumber();//可预约人数
       int reservations = orderSetting.getReservations();//已预约人数
       if(reservations >= number){
           //预约已满,不能预约
           return new Result(false, MessageConstant.ORDER FULL);
       }
       //检查当前用户是否为会员,根据手机号判断
       String telephone = (String) map.get("telephone");
       Member member = memberDao.findByTelephone(telephone);
       //防止重复预约
       if(member != null){
           Integer memberId = member.getId();
           int setmealId = Integer.parseInt((String))
map.get("setmealId"));
           Order order = new Order(memberId,date,null,null,setmealId);
           List<Order> list = orderDao.findByCondition(order);
           if(list != null && list.size() > 0){
               //已经完成了预约,不能重复预约
               return new Result(false, MessageConstant. HAS_ORDERED);
           }
       }
       //可以预约,设置预约人数加一
       orderSetting.setReservations(orderSetting.getReservations()+1);
       orderSettingDao.editReservationsByOrderDate(orderSetting);
       if(member == null){
           //当前用户不是会员,需要添加到会员表
           member = new Member();
           member.setName((String) map.get("name"));
```

```
member.setPhoneNumber(telephone);
            member.setIdCard((String) map.get("idCard"));
            member.setSex((String) map.get("sex"));
            member.setRegTime(new Date());
            memberDao.add(member);
        }
        //保存预约信息到预约表
        Order order = new Order(member.getId(),
                                date,
                                (String)map.get("orderType"),
                                Order.ORDERSTATUS NO,
                                Integer.parseInt((String)
map.get("setmealId")));
        orderDao.add(order);
        return new
Result(true, MessageConstant.ORDER_SUCCESS, order.getId());
    }
}
```

2.2.4 Dao接口

```
package com.itheima.dao;
import com.itheima.pojo.OrderSetting;
import java.util.Date;
import java.util.HashMap;
import java.util.List;
import java.util.Map;
public interface OrderSettingDao {
   public void add(OrderSetting orderSetting);
   //更新可预约人数
   public void editNumberByOrderDate(OrderSetting orderSetting);
   //更新已预约人数
   public void editReservationsByOrderDate(OrderSetting orderSetting);
   public long findCountByOrderDate(Date orderDate);
   //根据日期范围查询预约设置信息
   public List<OrderSetting> getOrderSettingByMonth(Map date);
   //根据预约日期查询预约设置信息
   public OrderSetting findByOrderDate(Date orderDate);
}
```

```
package com.itheima.dao;
import com.github.pagehelper.Page;
import com.itheima.pojo.Member;
import java.util.List;
public interface MemberDao {
   public List<Member> findAll();
   public Page<Member> selectByCondition(String queryString);
   public void add(Member member);
   public void deleteById(Integer id);
   public Member findById(Integer id);
   public Member findByTelephone(String telephone);
   public void edit(Member member);
   public Integer findMemberCountBeforeDate(String date);
   public Integer findMemberCountByDate(String date);
   public Integer findMemberCountAfterDate(String date);
   public Integer findMemberTotalCount();
}
```

```
package com.itheima.dao;
import com.itheima.pojo.Order;
import java.util.List;
import java.util.Map;

public interface OrderDao {
    public void add(Order order);
    public List<Order> findByCondition(Order order);
}
```

2.2.5 Mapper映射文件

OrderSettingDao.xml

```
<!--根据日期查询预约设置信息-->
<select id="findByOrderDate" parameterType="date"
resultType="com.itheima.pojo.OrderSetting">
    select * from t_ordersetting where orderDate = #{orderDate}
    </select>
    <!--更新已预约人数-->
    <update id="editReservationsByOrderDate"
    parameterType="com.itheima.pojo.OrderSetting">
        update t_ordersetting set reservations = #{reservations} where
    orderDate = #{orderDate}
    </update>
```

MemberDao.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"</pre>
        "http://mybatis.org/dtd/mybatis-3-mapper.dtd" >
<mapper namespace="com.itheima.dao.MemberDao" >
    <select id="findAll" resultType="com.itheima.pojo.Member">
        select * from t member
    </select>
    <!--根据条件查询-->
    <select id="selectByCondition"</pre>
            parameterType="string" resultType="com.itheima.pojo.Member">
        select * from t member
        <if test="value != null and value.length > 0">
            where fileNumber = #{value} or phoneNumber = #{value} or name
= #{value}
        </if>
    </select>
    <!--新增会员-->
    <insert id="add" parameterType="com.itheima.pojo.Member">
        <selectKey resultType="java.lang.Integer" order="AFTER"</pre>
keyProperty="id">
            SELECT LAST INSERT ID()
        </selectKey>
        insert into
            t member
              (fileNumber, name, sex, idCard, phoneNumber,
               regTime,password,email,birthday,remark)
             values
              (#{fileNumber},#{name},#{sex},#{idCard},#{phoneNumber},
               #{regTime},#{password},#{email},#{birthday},#{remark})
    </insert>
    <!--删除会员-->
    <delete id="deleteById" parameterType="int">
        delete from t_member where id = #{id}
    </delete>
    <!--根据id查询会员-->
    <select id="findById" parameterType="int"</pre>
```

```
resultType="com.itheima.pojo.Member">
        select * from t_member where id = #{id}
    </select>
    <!--根据id查询会员-->
    <select id="findByTelephone"</pre>
            parameterType="string" resultType="com.itheima.pojo.Member">
        select * from t_member where phoneNumber = #{phoneNumber}
    </select>
    <!--编辑会员-->
    <update id="edit" parameterType="com.itheima.pojo.Member">
        update t_member
        <set>
            <if test="fileNumber != null">
                fileNumber = #{fileNumber},
            </if>
            <if test="name != null">
                name = #{name},
            </if>
            <if test="sex != null">
                sex = \#\{sex\},\
            </if>
            <if test="idCard != null">
                idCard = #{idCard},
            </if>
            <if test="phoneNumber != null">
                phoneNumber = #{phoneNumber},
            </if>
            <if test="regTime != null">
                regTime = #{regTime},
            </if>
            <if test="password != null">
                password = #{password},
            </if>
            <if test="email != null">
                email = #{email},
            </if>
            <if test="birthday != null">
                birthday = #{birthday},
            </if>
```

```
<if test="remark != null">
               remark = #{remark},
           </if>
       </set>
       where id = #{id}
   </update>
   <!--根据日期统计会员数,统计指定日期之前的会员数-->
   <select id="findMemberCountBeforeDate" parameterType="string"</pre>
resultType="int">
       select count(id) from t member where regTime <= #{value}
   </select>
   <!--根据日期统计会员数-->
   <select id="findMemberCountByDate" parameterType="string"</pre>
resultType="int">
       select count(id) from t_member where regTime = #{value}
   </select>
   <!--根据日期统计会员数,统计指定日期之后的会员数-->
   <select id="findMemberCountAfterDate" parameterType="string"</pre>
resultType="int">
       select count(id) from t_member where regTime >= #{value}
   </select>
   <!--总会员数-->
   <select id="findMemberTotalCount" resultType="int">
       select count(id) from t_member
   </select>
</mapper>
```

OrderDao.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"</pre>
        "http://mybatis.org/dtd/mybatis-3-mapper.dtd" >
<mapper namespace="com.itheima.dao.OrderDao" >
    <resultMap id="baseResultMap" type="com.itheima.pojo.Order">
        <id column="id" property="id"/>
        <result column="member id" property="memberId"/>
        <result column="orderDate" property="orderDate"/>
        <result column="orderType" property="orderType"/>
        <result column="orderStatus" property="orderStatus"/>
        <result column="setmeal_id" property="setmealId"/>
    </resultMap>
    <!--新增-->
    <insert id="add" parameterType="com.itheima.pojo.Order">
        <selectKey resultType="java.lang.Integer" order="AFTER"</pre>
keyProperty="id">
            SELECT LAST INSERT ID()
        </selectKey>
        insert into
            t order
        (member_id, orderDate, orderType, orderStatus, setmeal_id)
        (#{memberId}, #{orderDate}, #{orderType}, #{orderStatus}, #
{setmealId})
    </insert>
    <!--动态条件查询-->
    <select id="findByCondition"</pre>
            parameterType="com.itheima.pojo.Order"
            resultMap="baseResultMap">
        select * from t order
        <where>
            <if test="id != null">
                and id = \#\{id\}
            </if>
            <if test="memberId != null">
                and member_id = #{memberId}
            </if>
            <if test="orderDate != null">
                and orderDate = #{orderDate}
```

3. 预约成功页面展示

前面已经完成了体检预约,预约成功后页面会跳转到成功提示页面 (orderSuccess.html)并展示预约的相关信息(体检人、体检套餐、体检时间等)。

3.1 页面调整

提供orderSuccess.html页面,展示预约成功后相关信息

```
<script>
 //从请求URL根据参数名获取对应值, orderId为预约id
 var id = getUrlParam("orderId");
</script>
<script>
 var vue = new Vue({
    el:'#app',
   data:{
     orderInfo:{}
    },
   mounted(){
     axios.post("/order/findById.do?id=" + id).then((response) => {
       this.orderInfo = response.data.data;
     });
    }
 });
</script>
```

3.2 后台代码

3.2.1 Controller

在OrderController中提供findByld方法,根据预约id查询预约相关信息

```
/**
* 根据id查询预约信息,包括套餐信息和会员信息
* @param id
 * @return
@RequestMapping("/findById")
public Result findById(Integer id){
 try{
   Map map = orderService.findById(id);
   //查询预约信息成功
   return new Result(true, MessageConstant.QUERY_ORDER_SUCCESS, map);
 }catch (Exception e){
   e.printStackTrace();
   //查询预约信息失败
   return new Result(false, MessageConstant.QUERY_ORDER_FAIL);
 }
}
```

3.2.2 服务接口

在OrderService服务接口中扩展findByld方法

```
//根据id查询预约信息,包括体检人信息、套餐信息
public Map findById(Integer id) throws Exception;
```

3.2.3 服务实现类

在OrderServiceImpl服务实现类中实现findByld方法

```
//根据id查询预约信息,包括体检人信息、套餐信息
public Map findById(Integer id) throws Exception {
   Map map = orderDao.findById4Detail(id);
   if(map != null){
        //处理日期格式
        Date orderDate = (Date) map.get("orderDate");
        map.put("orderDate",DateUtils.parseDate2String(orderDate));
   }
   return map;
}
```

3.2.4 Dao接口

在OrderDao接口中扩展findByld4Detail方法

```
public Map findById4Detail(Integer id);
```

3.2.5 Mapper映射文件

在OrderDao.xml映射文件中提供SQL语句

```
<!--根据预约id查询预约信息,包括体检人信息、套餐信息-->
<select id="findById4Detail" parameterType="int" resultType="map">
    select m.name member ,s.name setmeal,o.orderDate orderDate,o.orderType
    orderType
    from
    t_order o,
    t_member m,
    t_setmeal s
    where o.member_id=m.id and o.setmeal_id=s.id and o.id=#{id}
<//select>
```