

# 蚂蚁物流管理系统 ( Ant Express Management System )

## 1. 简介(Overview)

**简介：**蚂蚁系统是某大型物流公司的后台核心综合业务系统，使用群体为公司内部成员。类似于中通物流、顺丰物流。在做项目时可以参考现有运行的物流系统。该系统分为若干个模块，有权限管理，运输路线管理，受理模块以及基础数据等模块。

**Introduction:** AntExpress System is the core and comprehensive back-en business system for a large logistics company, target group to use the system consists of company employees. You may refer to existing logistics system such as SF express or ZTO express in real life while working on this project. The project is divided into several different modules, including the Rights Management Module, the Transportation Route Management M, the Sheet Processing Module and the Basic Data module, etc.

## 2. 项目技术选型(Project Skill Combo)

- 数据库(DataBase)： SQL Server, MySQL, Oracle 等(自选,Free to choose)
- 核心框架(Core Framework)： Spring MVC+Spring+Hibernate

- IDE: NetBeans, Eclipse, IntelliJ Idea 等(自选, Free to choose)
- 前端技术(Front-end) : HTML5 , Javascript, CSS, JQuery
- 在某些查询中添加数据分页功能

Add the data paging functionality in some of the queries

- 请在所有需要发送异步请求的功能里使用 Ajax

Use Ajax anywhere where a asynchronous request is needed

在快递发件过程中, 涉及地图。可以通过 Web 服务,调用百度地图或者谷歌地图。

You may need to use the map service or the positioning service for sending an item, you can implement the same through invoking the map web services provided by Baidu Map or Google Map.

### 3. 数据字典设计(参考示例)

#### Data Dictionary Design(Example for Reference)

表(User-用户表)

| 字段名称<br>FIELD NAME | 数据类型<br>DATA TYPE | 是否为空<br>IS NULL | 默认值<br>DEFAULT VALUE | 说明<br>DESCRIPTION | 备注<br>REMARK |
|--------------------|-------------------|-----------------|----------------------|-------------------|--------------|
| USER_ID            | VARCHAR(50)       | 否               |                      | 用户 ID             | PK ,大小写英文和数字 |
| PASS_WORD          | VARCHAR(50)       | 否               |                      | 密码                | MD5 加密       |

该表只是一个格式,具体数据库表格自行设计, 请将所有的表设计写入一个 excel 表

Here is just a format for reference, please complete database table design on your own, and put them all in one excel file.

## 4. 物流系统功能模块(Functional Module of the System)

### 1) 登录功能(Log in)



The image shows a web form titled "员工登录" (Employee Login). It contains two input fields: "帐号:" (Account) and "密码:" (Password). Below the password field is a small square icon and a CAPTCHA image showing the numbers "2546". To the right of the CAPTCHA is a blue button labeled "登录" (Login). At the bottom left, there is a checkbox labeled "记住用户" (Remember user), which is highlighted with a red rectangle.

### 要求(Requirements) :

- ① Ajax 异步请求登录

Implement login using Ajax

- ② 用户名明文,需要字母开头,长度 6-18 位,需含有数字和字母

Keep user name as plain text, the user name should start with a letter and contains only digits and letters, and the length should be between 6 and 18

- ③ 用户密码需要进行加密(可以参考 MD5 加密,需要进行迭代,加盐),密码为数字 6-12 位

Encrypt the password(You can refer to the MD5 encryption, you need to

implement iteration and adding salt) and the password must contain only 6 to 12 digits

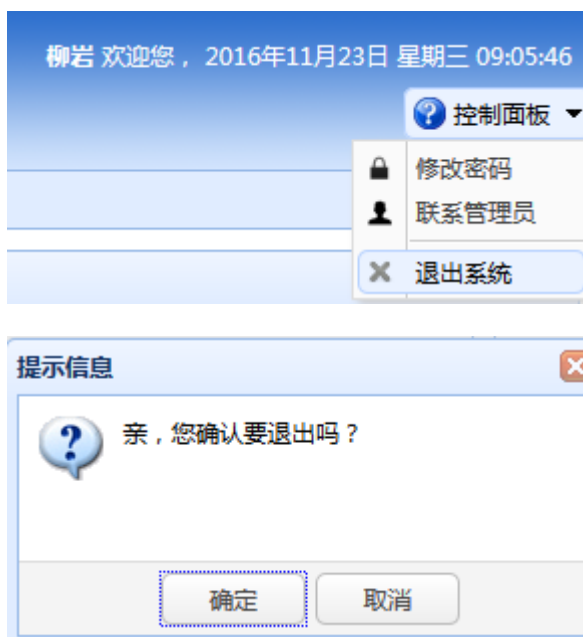
④ 验证码动态生成,且进行后台数据匹配

Verification code must be generated dynamically and get verified with back-end data

⑤ 记住用户功能(默认不开启), 记住用户(7 天免登录),当一个用户选择记住用户功能,那么用户再次登录,可以免去登录,直接进入后台。

Add the 'Remember user' (Off by default) functionality, the system allows remembering a user for 7 days, thus, when a user checks this option, then he is spared the efforts to log in again and will be navigated to the corresponding page directly.

## 2) 系统退出(Log out)



**要求(Requirement) :** Implement the log out functionality

### 3 ) 修改密码(Change password)



修改密码主界面(Interface of the 'change password' functionality) :

A screenshot of a '修改密码' (Change Password) form. The form has a title bar with the text '修改密码' and standard window controls. Inside the form, there are three text input fields labeled '旧密码:' (Old Password), '新密码:' (New Password), and '确认密码:' (Confirm Password). Below these fields are two buttons: '确定' (Confirm) with a green checkmark icon and '重置' (Reset) with a red 'X' icon.

**要求(Requirement) :** Allow a user to change his or her password by sending a asynchronous request, use Ajax to implement this

### 4 ) 联系管理员(Contact administrator)





**要求(Requirement)** : Use javascript to display a pop-up window that enables a user to activate QQ or Wechat to contact with the administrator

## 5. 权限管理(Rights Management)

### 1 ) 员工的添加(Adding an employee):

- ① 员工信息最少包涵以下几项:登录名,密码,性别,部门,职位,手机,邮箱,薪水这几项

Employee details must contain at least the following information: login ID, password, gender, department, occupation/title, mobile number, email address, salary, etc.

- ② 登录名需要异步验证它的唯一性

As to login, you must validate the uniqueness of a user id using Ajax

- ③ Ajax 异步加载部门和职位

Load the department list and the occupation list asynchronously by using

ajax

- ④ 手机号码需要进行校验正则表达式需要符合中国国情

The mobile number must be validated against a regular expression that matches the Chinese mobile number pattern

- ⑤ 邮箱需要进行校验

You must validate the format of an email address

## 2 ) 员工的修改(Update an employee):

员工的登录名不能修改,其他不做限定

The user ID of an employee is not allowed to modify, however other information about an employee can be updated

## 3 ) 员工的删除>Delete employees):

员工可以单个删除,也可以批量删除

The system allows deleting one employee as well as deleting a batch of employees in one go

## 4 ) 员工的查询(Retrieve employee details)

- ① 员工信息可以根据姓名模糊查询

Retrieve employee details based on a keyword using fuzzy querying

- ② 员工信息可以根据手机号码模糊查询

Retrieve employee details based on the mobile number column using fuzzy querying

- ③ 员工信息可以根据部门或职位精确查询

Retrieve employee details based on department or occupation using fuzzy querying

- ④ 查询顺序按照创建时间倒叙排列

Sort the result set retrieved in a reverse order based on the time of creation

- ⑤ 需要进行分页查询

Implement data paging while querying data

## 5 ) 部门模块(Department Management Module):

- ① 部门的添加:需要部门的名称和其他信息

Add a department by providing the name and other details of a department

- ② 部门的修改:部门所有数据都要进行修改

Modify a department allows updating all the information of a department

- ③ 部门删除(可以批量删除):删除部门,逻辑删除所有的员工

Delete on department or many departments in one go, once a department is deleted, all the employees from that department should be removed at the same time logically

- ④ 部门查询:分页查询

Retrieve department details, implement data paging while querying



## 6 ) 职位模块(Occupation Module):

- ① 职位的添加:需要职位的名称和其他信息

Add an occupation by providing its name and other details

- ② 职位的修改:职位所有数据都要进行修改

Update an occupation, all the details of an occupation can be modified

- ③ 职位删除(可以批量删除):删除职位,逻辑删除所有的员工

Delete on occupation or many occupations in one go, once an occupation is deleted, all the employees of that occupation should be removed at the same time logically

- ④ 职位查询:分页查询

Retrieve occupation details, implement data paging while querying

注意:需要对不同的员工设置不同的权限;例如超级管理员可以实现对所有员工和部门的增删查改,且对所有员工根据级别进行赋权,Vip 的员工可以执行部分超级管理员的部分职能,比如上级删除某位员工,普通用户只有查看自己信息和修改自我信息的功能.如何实现权限管理,自行设计。

Note: you need to give permissions to different kinds of employees for implementing different operations, for example, a super administrator is allowed to implement CRUD operations on all employees and all departments, and enjoys the right to assign rights to other employees based on their levels at the same time, a VIP employee is able to implement part of the functionality of that of a super administrator , for example, a senior

employee is allowed to delete an employee of a lower level, while a normal employee can only view or modify his own details. Please complete designing your application by implementing rights management

## 6. 基础信息(Basic information)

基础信息主要实现功能(This module covers such functionality as follows):

基础信息主要包含取派员模块:取派员的增删查改.

The basic information module mainly involves the CRUD operations on the delivery men

区域模块:网点分布区域,以及分布区域对应的取派员

The area module involves management of the distribution network and the delivery men of each area

## 7. 受理中心(Processing center)

### 1 ) 发货单管理(Bill Management):

① 发货单添加:用户到网点发货,由网点填写发货单(发货单信息参考 SF)

Add a dispatch bill, a user goes to an outlet and fill in a bill to send an item out (Refer to SF express bill for managing bill information)

② 发货单修改:发货单的编号不可以修改

Update a bill, the id of a bill is not allowed to modify

- ③ 发货单删除:单个删除和批量删除:

Delete dispatch bills, delete one bill or many bills in one go

- ④ 发货单审批:发货单经过审批,生成业务通知单,该发货单逻辑删除

Examination and approval of a dispatch bill, once a bill gets examined and approved, a normal bill is generated, thus the dispatch bill would be deleted logically

- ⑤ 发货单查询:多条件查询,需要进行分页,可以根据生成货单时间倒叙排列(其他要素自行设定)

Retrieve details of dispatch bills, please implement data paging while querying and sort the result list based on the time of bill generation (Design other sorting criteria on your own if you want to implement more sorting)

## 2) 业务通知单(Normal Bill):

- ① 业务通知单的添加:发货单经过审批生成业务通知单:

Add a normal bill, a dispatch bill turns into a normal bill after approval

- ② 业务通知单的查询:根据修改时间和生成时间倒叙排列,需要进行多条件分页查询

Retrieve details of normal bills, implement data paging based on multiple criteria, sort the data according to the time of creation and modification

- ③ 点击生成工单,将业务通知单生成工单.(工单就是将业务通知单分配给取派员)

Generate a working sheet based on the normal bill details (A working sheet means one copy of the normal bill given to a delivery man)

### 3 ) 工单管理(Working Sheet Management):

- ① 工单的修改:仅取派员可以修改,一旦生成工单,工单基本属性均不可以修改

Modify a working sheet, only a delivery man is allowed to modify a working sheet, once a working sheet is generated, its basic information can not be modified

- ② 工单的状态:选中该工单,工单的状态可以设置为新单,改单,销单

Manage working sheet status, the status of a working sheet can be changed to be 'new' , 'modified' , 'revoked' for sheets selected

- ③ 工单的销单:逻辑删除工单(可批量删除):

Delete working sheets, the system allows deletion of one sheet or a batch of sheets in one go

- ④ 工单查询:可以根据工单状态,取件状态,地址以及取派员条件分页查询订单

Retrieve sheet details, query sheets based on the status, address or delivery man by implementing data paging

## 8. 备注：可自行添加其他扩展功能

**Remark:** Students can add on to the project by implementing more extra functionality.