```java
package com.sprotyshoes.controller;

import java.util.ArrayList;
import java.util.Arrays;
import java.util.List;

import org.hibernate.engine.jdbc.env.spi.AnsiSqlKeywords;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.data.domain.Sort;
import org.springframework.data.repository.query.Param;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
import org.springframework.web.servlet.ModelAndView;

import com.sprotyshoes.model.Productcat;
import com.sprotyshoes.model.Userorder;
import com.sprotyshoes.model.Userreg;
import com.sprotyshoes.repository.Orderrepository;
import com.sprotyshoes.repository.Productrepository;
import com.sprotyshoes.repository.Userrepository;




@RestController
public class Usercontroller {

	@Autowired
	private Userrepository userrep;

	@Autowired
	private Orderrepository orderrep;

	@Autowired
	private Productrepository prodrep;


	//Product categorization
		@GetMapping("/productcat")
		public ModelAndView productcat() {
			ModelAndView mav=new ModelAndView("productcat");
				Productcat prodcat=new Productcat();
				mav.addObject("productcat", prodcat);
				return mav;
		}
```

```java
//saving of categorized product by Admin
        @PostMapping("/category")
        public String catassign(@ModelAttribute ("productcat") Productcat
productcat) {
        prodrep.save(productcat);
                return "Product Categorized successfully";
        }


    //Admin view of registered users
    @GetMapping("/userdisplay" )
    public ModelAndView showusers() {
        ModelAndView mav=new ModelAndView("userdisplay");
        List<Userreg> list= (List<Userreg>) userrep.findAll();
        mav.addObject("userreg", list);
        return mav;
    }

    //search by user by Admin
    @GetMapping("/search")
    public ModelAndView findusers(String keyword) {
        ModelAndView find=new ModelAndView("find");
        List<Userreg> list= userrep.findByKeyword(keyword);
        find.addObject("userreg", list);
        return find;
    }

    //New user registration form
        @GetMapping("/newuser")
        public ModelAndView newuser() {
            ModelAndView mav=new ModelAndView("newuser");
            Userreg user=new Userreg();
            mav.addObject("userreg", user);
            return mav;
        }

        //sign up by the new user
        @PostMapping("/signup")
        public String saveuser(@ModelAttribute ("userreg") Userreg userreg) {
            userrep.save(userreg);
            return "Successfully Registered";
        }

        //new order form
        @GetMapping("/neworder")
        public ModelAndView neworder() {
            ModelAndView mav=new ModelAndView("neworder");
            Userorder neworder=new Userorder();
            mav.addObject("userorder",neworder);
            return mav;
        }

        //Place an order by User
        @PostMapping("/saveorder")
```

```java
            public String saveorder(@ModelAttribute ("userorder") Userorder
userorder) {
            orderrep.save(userorder);
                return "Product ordered successfully";
            }

            //view the user orders by Admin
                        @GetMapping("/userorder" )
                        public ModelAndView showorders() {
                                ModelAndView mav=new ModelAndView("purreports");
                                List<Userorder> list= orderrep.findAll();
                                mav.addObject("userorder", list);
                                return mav;
                        }


            //Filter by Admin by Category/date
            @GetMapping("/filterby")
            public ModelAndView filter(String keyword) {
                    ModelAndView filter=new ModelAndView("filter");
                    List<Userorder> filter1= orderrep.findbykeyword(keyword);
                    filter.addObject("userorder", filter1);
                    return filter;

            }

    }
```