

Account This!

Group 9

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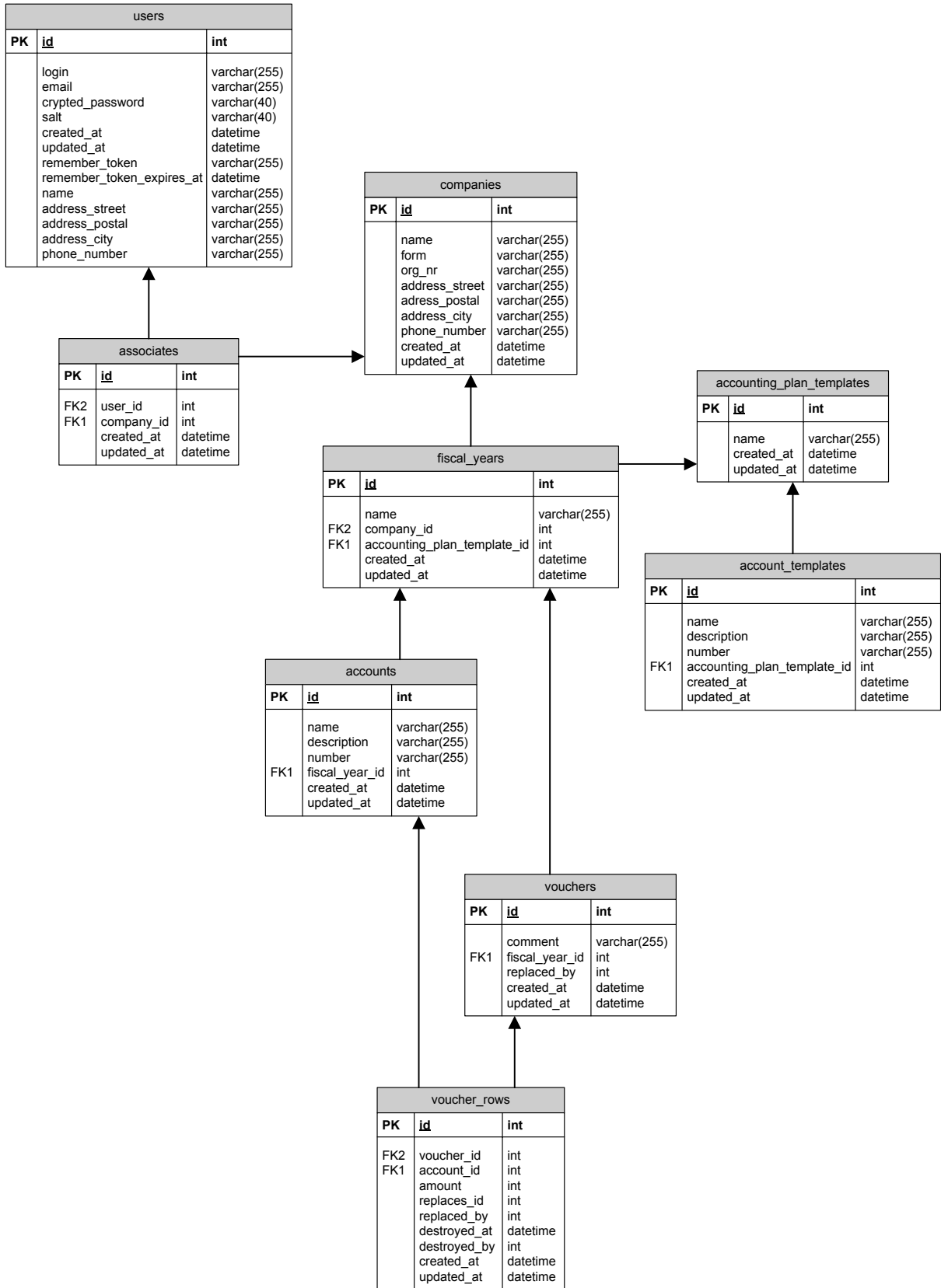
Jesper Skoglund

5 Design Details

5.5 Detailed Design

Below are detailed design descriptions for each class, method and accessor (for information concerning accessors, please see: <http://en.wikipedia.org/wiki/Accessor>) that is to be implemented in the final version of AccountThis!. This subchapter is based on the requirements document along with the overall design information and will serve as a general template (or a backbone) to which the actual program code can be compared and evaluated. By analyzing the detailed design, one should easily be able grasp what need to be done to build the system. This provides an overview of the system, granting us – as developers – better odds of discovering mistakes and logical errors before they appear in the fully implemented code. Discovering errors in an early phase of development is deemed to be less costly than having errors appear in the near complete version.

5.5.1 Database



5.5.2 Models

5.5.2.1 User

5.5.2.1.1 Accessors

Name	Type	Description
id	Fixnum	The user's internal identification.
name	String	The user's full name.
login	String	The user's login name.
address_street	String	The user's street address.
address_postal	String	The user's postal address.
address_city	String	The user's city.
email	String	The user's email.
phone_number	String	The user's phone number.
associates	Array	The associates that this user has.
companies	Array	The companies that this user belongs to.
updated_at	Time	User updated time.
created_at	Time	User creation time.

5.5.2.1.2 Methods

self.authenticate	
Authenticates the user with their login name and unencrypted password.	
Parameters	login, password
Return Value	Returns the User with the provided login if login and password matches, otherwise nil.
Pre-condition	
Post-condition	

self.encrypt	
Encrypt the password with the given salt (for information concerning salt, please see: http://en.wikipedia.org/wiki/Salt_(cryptography)).	
Parameters	password, salt
Return Value	Returns the given password in an encrypted form.
Pre-condition	Na

Post-condition	That the password was encrypted with an SHA1 hex digest algorithm using the given salt.
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encrypt	
Encrypt the password with the user's salt (for information concerning salt, please see: http://en.wikipedia.org/wiki/Salt_(cryptography)).	
Parameters	password
Return Value	Returns the given password in an encrypted form.
Pre-condition	Na
Post-condition	That the password was encrypted with an SHA1 hex digest algorithm using the users salt.

authenticated?	
Checks if the user is authenticated with the provided password.	
Parameters	password
Return Value	Returns true if the user is authenticated otherwise false.
Pre-condition	Na
Post-condition	That the password was encrypted with an SHA1 hex digest algorithm using the user's salt.

encrypt_password	
Before the use is saved the password will be encrypted so the saved password will be in an encrypted form.	
Parameters	
Return Value	Returns nil.
Pre-condition	Na
Post-condition	That the password is encrypted and stored in the database.

password_required?	
Checks whatever a password is required for the current user.	
Parameters	
Return Value	Returns true if no password is required for the current user, otherwise false.

Pre-condition	Na
Post-condition	Na

5.5.2.2 Associate

5.5.2.2.1 Accessors

Name	Type	Description
id	Integer	Internal identification.
user	User	The user that the associate has.
company	Company	The company that the associate has.
updated_at	Time	The associate's updated time.
created_at	Time	The associate's creation time.

5.5.2.3 Company

5.5.2.3.1 Accessors

Name	Type	Description
id	Integer	Internal identification.
name	String	The company's name.
form	String	The company's form.
associates	Array	The associates this company has.
users	Array	The users that belongs to this company.
org_nr	String	The company's organizational number.
address_street	String	The company's street address.
address_postal	String	The company's postal address.
address_city	String	The company's city.
phone_number	String	The company's phone number.
updated_at	Time	Company updated time.
created_at	Time	Company creation time.

5.5.2.4 FiscalYear

5.5.2.4.1 Accessors

Name	Type	Description
id	Fixnum	Internal identification of the fiscal year

company	Company	The company that the fiscal year belongs to.
voucher_rows	Array	The vouchers associated with the fiscal year.
created_at	Time	The date and time when the fiscal year was created.
accounting_plan_template	AccountingPlanTemplate	The accounting plan template that was initially used to create the accounts that belongs to the fiscal year.
accounts	Array	The accounts associated with the fiscal year.
name	String	The name of the fiscal year (i.e. "2007")

5.5.2.5 Account

5.5.2.5.1 Accessors

Name	Type	Description
id	Fixnum	Internal identification of the account.
name	String	Name of the account.
description	String	Description of the account.
number	String	The account number.
created_at	Time	Date and time when the instance was created.
updated_at	Time	Date and time when the instance was updated.
fiscal_year	FiscalYear	The accounting plan template in which the account template is created.

5.5.2.6 Voucher

5.5.2.6.1 Accessors

Name	Type	Description
id	Fixnum	Internal identification of the voucher.
voucher_rows	Array	The voucher rows that belongs to a voucher.
fiscal_year	FiscalYear	The fiscal year that the voucher belongs to.
created_at	Time	The date and time when the voucher was created.
comment	String	An optional comment to the voucher.
replaces	Voucher	The voucher that this voucher replaces (if any).
replaced_by	Voucher	The voucher that replaces this voucher (if any).

5.5.2.7 VoucherRow

5.5.2.7.1 Accessors

Name	Type	Description
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id	Fixnum	The id.
voucher	Voucher	The voucher that the voucher row belongs to.
account	Account	The account that this voucher row refers to.
created_at	Time	The date and time when the voucher row was created.
amount	Fixnum	The amount specified by a voucher row, can be negative.
replaces	VoucherRow	The voucher row that this voucher row replaces (if any).
replaced_by	VoucherRow	The voucher row that replaces this voucher row (if any).
destroyed_at	Time	The time and date when the voucher row was destroyed, if it is destroyed.
destroyed_by	User	The user that destroyed the voucher row, if it is destroyed.

5.5.2.8 AccountingPlanTemplate

5.5.2.8.1 Accessors

Name	Type	Description
id	Fixnum	Internal identification of accounting plan templates.
name	String	Name of the accounting plan.
accounts	Array	Set of accounts for the accounting plan.
created_at	Time	Date and time when the instance was created.
updated_at	Time	Date and time when the instance was updated.

5.5.2.8.2 Methods

use_in_fiscal_year	
Export accounts from the accounting plan to a fiscal year and sets the fiscal year's account template accessor.	
Parameters	fiscal_year
Return Value	N/A
Pre-condition	Parameter fiscal_year cannot be null.
Post-condition	All or none accounts have been copied to the fiscal year.

5.5.2.9 AccountTemplate

5.5.2.9.1 Accessors

Name	Type	Description
id	Fixnum	Internal identification of the account template.
name	String	Name of the account template.
description	String	Description of the account template.
number	String	The account number.

created_at	Time	Date and time when the instance was created.
updated_at	Time	Date and time when the instance was updated.
accounting_plan_template	AccountingPlanTemplate	The accounting plan template in which the account template is created.

5.5.3 Controllers

5.5.3.1 UsersController

The controller is reached by /companies/:company_id/users/

5.5.3.1.1 Methods

index	
The default action for this controller.	
Parameters	
Return value	A list of userfor the selected company as rows in HTML.
Preconditions	A user must be logged in.
Postconditions	

new	
The action for rendering a form for a new user in the selected company.	
Parameters	
Return value	A form as HTML for a new user in the selected company.
Preconditions	A user must be logged in.
Postconditions	

edit	
The action for rendering a form to update a user.	
Parameters	
Return value	A form as HTML for updating a user.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

create

The action for saving a new user.	
Parameters	
Return value	A redirect to the index action or the form for creating a new user with error messages if errors occurred.
Preconditions	A user must be logged in. Post parameters from the new action must be present.
Postconditions	A new fiscal year is created or error messages is returned.

update	
The action for saving an updated user.	
Parameters	
Return value	A redirect to the index action or the form for updating the user with error messages if errors occurred.
Preconditions	A user must be logged in. Post parameters from the edit action must be present.
Postconditions	The user is updated.

destroy	
The action for destroying a user.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in.
Postconditions	The user is destroyed or error messages is returned.

show	
The action for rendering a user.	
Parameters	
Return value	HTML for a user.
Preconditions	A user must be logged in.
Postconditions	

5.5.3.2 *SessionController*

The controller is reached by /session/

5.5.3.2.1 Methods

create	
The action for logging a user into the system.	
Parameters	The usersusername and password as post parameters and an optionalurl that the userwould be forwarded to if the url is given.
Return value	A redirect if the user is successfully logged in. Otherwise the theloginform is rendered again with an message that says that the username or password was incorrect.
Preconditions	That the user isn't logged in.
Postconditions	

destroy	
The action for logging out a user from the system.	
Parameters	
Return value	A redirect to the startpage.
Preconditions	That the user is logged in.
Postconditions	

5.5.3.3 *AssociatiesController*

The controller is reached by /users/:user_id/associates and /companies/:company_id/associates

5.5.3.3.1 Methods

index	
The default action for this controller.	
Parameters	
Return value	A list of associates rows as HTML.
Preconditions	A user must be logged in.
Postconditions	

edit	
The action for editing an associate.	
Parameters	
Return value	A form as HTML for updating associates.
Preconditions	A user must be logged in.

Postconditions	
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update	
The action for saving an updated associate.	
Parameters	
Return value	A redirect to the index action or the form for updating the associate with error messages if errors occurred.
Preconditions	A user must be logged in. Post parameters from the edit action must be present.
Postconditions	The associate is updated.

destroy	
The action for destroying a associate.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in.
Postconditions	The associate is destroyed or error messages is returned.

5.5.3.4 *CompaniesController*

The controller is reached by /companies/.

5.5.3.4.1 Methods

new	
The action for rendering a form for a new company and the initial user.	
Parameters	
Return value	A form as HTML for a new company and the initial user.
Preconditions	
Postconditions	

edit	
The action for rendering a form to update a company.	
Parameters	
Return value	A form as HTML for updating a fiscal year.

Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

create	
The action for saving a new company.	
Parameters	
Return value	A redirect to the index action or the form for creating a company with error messages if errors occurred.
Preconditions	A user must be logged in. Post parameters from the new action must be present.
Postconditions	A new company is created or error messages is returned.

update	
The action for saving an updated company.	
Parameters	
Return value	A redirect to the index action or the form for updating the company with error messages if errors occurred.
Preconditions	A user must be logged in. Post parameters from the edit action must be present.
Postconditions	The company is updated.

show	
The action for rendering a company.	
Parameters	
Return value	HTML for a company.
Preconditions	A user must be logged in.
Postconditions	

5.5.3.5 *SupportController*

The controller is reached from /support/.

5.5.3.5.1 Methods

index	
The default action for this controller.	

Parameters	
Return value	A HTML form for a new support request.
Preconditions	
Postconditions	

new	
The action for rendering a form for a new support request.	
Parameters	
Return value	A HTML-form for a new support request.
Preconditions	
Postconditions	

submit	
The action for submitting a support request through e-mail to the support staff.	
Parameters	
Return value	A confirmation of the submitted support request.
Preconditions	Post parameters from the new action must be present.
Postconditions	

5.5.3.6 *FiscalYearsController*

The controller is reached by /fiscal_years/

5.5.3.6.1 Methods

index	
The default action for this controller.	
Parameters	
Return value	A list of voucher rows as HTML.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

new	
The action for rendering a form for a new fiscal year.	
Parameters	
Return value	A form as HTML for a new fiscal year.

Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

edit	
The action for rendering a form to update a fiscal year.	
Parameters	
Return value	A form as HTML for updating a fiscal year.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

create	
The action for saving a new fiscal year.	
Parameters	
Return value	A redirect to the index action or the form for creating a new fiscal year with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year must have been chosen. Post parameters from the new action must be present.
Postconditions	A new fiscal year is created or error messages is returned.

update	
The action for saving an updated fiscal year.	
Parameters	
Return value	A redirect to the index action or the form for updating the fiscal year with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year must have been chosen. Post parameters from the edit action must be present.
Postconditions	The fiscal year is updated.

destroy	
The action for destroying a fiscal year.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	The fiscal year is destroyed or error messages is returned.

show	
The action for rendering a fiscal year.	
Parameters	
Return value	HTML for a fiscal year.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

5.5.3.7 AccountsController

The controller is reached by `/fiscal_years/:fiscal_year_id/accounts/`.

5.5.3.7.1 Methods

index	
The default action for this controller.	
Parameters	
Return value	A list of accounts as HTML.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

new	
The action for rendering a form for a new account.	
Parameters	
Return value	A HTML-form for a new account.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

edit	
The action for rendering a form to update an account.	
Parameters	
Return value	A form as HTML for updating an account.
Preconditions	A user must be logged in and a fiscal year and an account must have been chosen.
Postconditions	

create	
The action for saving a new account.	
Parameters	
Return value	A redirect to the index action or the form for creating a new account with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year must have been chosen. Post parameters from the new action must be present.
Postconditions	A new account is created or error messages are returned.

update	
The action for saving an updated account.	
Parameters	
Return value	A redirect to the index action or the form for updating the account with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year and an account must have been chosen. Post parameters from the edit action must be present.
Postconditions	The account is updated.

destroy	
The action for destroying an account.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in and a fiscal year and an account must have been chosen. The account cannot be referred to from any voucher row.
Postconditions	The selected account is destroyed or the user has been notified of the failure of the operation.

show	
The action for rendering displaying an account	
Parameters	
Return value	HTML for an account.
Preconditions	A user must be logged in and a fiscal year and an account must have been chosen.
Postconditions	

5.5.3.8 VouchersController

The controller is reached by /fiscal_years/:fiscal_year_id/vouchers/.

5.5.3.8.1 Methods

index	
The default action for this controller.	
Parameters	
Return value	A list of vouchers as HTML.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

new	
The action for rendering a form for a new voucher.	
Parameters	
Return value	A form as HTML for a new voucher.
Preconditions	A user must be logged in and a fiscal year must have been chosen.
Postconditions	

edit	
The action for rendering a form to update a voucher.	
Parameters	
Return value	A form as HTML for updating a voucher.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen.
Postconditions	

create	
The action for saving a new voucher.	
Parameters	
Return value	A redirect to the index action or the form for creating a new voucher with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year must have been chosen. Post parameters from the new action must be present.

Postconditions	A new voucher is created or error messages is returned.
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update	
The action for saving an updated voucher.	
Parameters	
Return value	A redirect to the index action or the form for updating the voucher with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen. Post parameters from the edit action must be present.
Postconditions	A new voucher is created which overrides the old one.

destroy	
The action for destroying a voucher.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen.
Postconditions	A new voucher is created which overrides the old one. All voucher rows are marked as destroyed.

show	
The action for rendering a voucher.	
Parameters	
Return value	HTML for a voucher.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen.
Postconditions	

5.5.3.9 *VoucherRowsController*

The controller is reached by `/fiscal_years/:fiscal_year_id/vouchers/:voucher_id/voucher_rows/`

5.5.3.9.1 Methods

index	
The default action for this controller.	
Parameters	

Return value	A list of voucher rows as HTML.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen.
Postconditions	

new	
The action for rendering a form for a new voucher row.	
Parameters	
Return value	A form as HTML for a new voucher row.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen.
Postconditions	

edit	
The action for rendering a form to update a voucher row.	
Parameters	
Return value	A form as HTML for updating a voucher row.
Preconditions	A user must be logged in and a fiscal year, a voucher and a voucher row must have been chosen.
Postconditions	

create	
The action for saving a new voucher row.	
Parameters	
Return value	A redirect to the index action or the form for creating a new voucher row with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year and a voucher must have been chosen. Post parameters from the new action must be present.
Postconditions	A new voucher row is created or error messages is returned.

update	
The action for saving an updated voucher row.	
Parameters	

Return value	A redirect to the index action or the form for updating the voucher row with error messages if errors occurred.
Preconditions	A user must be logged in and a fiscal year, a voucher and a voucher row must have been chosen. Post parameters from the edit action must be present.
Postconditions	A new voucher row is created which overrides the old one.

destroy	
The action for destroying a voucher row.	
Parameters	
Return value	A redirect to the index action with or without error messages.
Preconditions	A user must be logged in and a fiscal year, a voucher and a voucher row must have been chosen.
Postconditions	The voucher row is marked as destroyed or error messages is returned.

show	
The action for rendering a voucher row.	
Parameters	
Return value	HTML for a voucher row.
Preconditions	A user must be logged in and a fiscal year, a voucher and a voucher row must have been chosen.
Postconditions	

5.6 Package Diagram

