

Django DBMS Project Report

Software Engineering Team Project



Team members:
Chao Chen, Saheed Adepoju, Yihang Zhao

Fall 2016

Content

Django DBMS Project Report	1
Content	2
1. Project Commitment	3
2. User Stories	4
2.1 Use case card	4
2.2 New User Stories	8
2.3 Architecture Diagram	9
2.4 Activity Diagram	10
2.6 Class and Components Diagram	11
2.8 Database Diagram	12
3. Working Code	13
3.1 New Data Model Sample	13
3.2 Code Sample	14
3.3 User Interface Screen	15
4. Project Repository and Tools	17
4.1 Repository	17
4.2 SCRUM Tool	18
5. Weekly SCRUM Sheets	19

1. Project Commitment

The target of Django DBMS project is to develop a web-based platform for small store owner or manager to manage resources and for the staffs to conduct their regular works.

This project is built on top of Django-based web service, therefore it only need to be deployed on specified server instead of to be deployed on different working environment. All the user need are just the internet and web browser.

Below figure shows the project commitment form:

**Prairie View A&M University
Department of Computer Science**

COMP 5423 Software Engineering Project Commitment Form
FALL 2016

This form should be filled by the students and signed by ALL the students. The completed form should be returned to Dr. A. Lodgher by September 21, 2016.

Student Names: Chao Chen Sahed Adepoju Tihang Zhao

Project Title: Django DBMS

Title and Brief Description of the Project:
This project targets on delivering a django-based website for small store owner, manager and staff to manage resources and conducting regular works.

Commitment to the Project by Student:

Student Name	Student Signature	Date	Email	Phone
<u>Chao Chen</u>	<u>Chao Chen</u>	<u>9/18/2016</u>	<u>cohen.rough@gvamu.edu</u>	<u>8329104615</u>
<u>Zhao Tihang</u>	<u>Zhao Tihang</u>	<u>9/20/2016</u>	<u>tong9220@gmail.com</u>	<u>8324741068</u>
<u>Sahed Adepoju</u>	<u>Sahed Adepoju</u>	<u>9/20/2016</u>	<u>sahedade@gmail.com</u>	<u>7134729263</u>

By signing above, we certify that we will do original work for the project and will do the best to complete the above project on time. Our individual failure to work on the project may result in a grade that may prevent us individually and our team members from getting a satisfactory grade for the class. We have indicated our team contact information (Email and phone) and we individually will use this as our primary communication channel, and respond immediately to the communication.

The Team leader for this team is : Chao Chen

2. User Stories

2.1 Use case card

Scenario 1: Account Creation.

Given that user doesn't exist

And can not use the System.

When the user tries to use the Application

The Application allows user to create
Account.(User-name and Password)

The Application allows the user to log
onto the system.

Scenario 2: Logging out.

Given that a user has logged
onto the System.

When a user clicks log-out

The Application logs out the user.

Scenario 3: Account login.

Given that there is no current user logged

in.

Given that there already exist accounts in the system.

Given that the Username and Password are correctly entered into the Application.

When they are entered

The Application logs them into the system.

Scenario 4: Add New Stock to the Application.

Given that a user is logged in.

Select the workflow menu.

Select the expenditure sub-menu.

Select the Stock sub-menu.

Enter the Name, the Price, count and Payment.

Click Submit

The Application will outline that the process was successful.

Scenario 5: Add a new membership user.

Given that an admin user is already logged in.

Select the workflow menu.

Select the Membership sub-menu.

Select the New-membership sub-menu.

Enter the Name, Phone number, gender, Birthdate, balance amount, PinCode, Address.

Click Submit to submit the details.

The application should respond with that the record has been entered.

Scenario 6: Purchasing an item.

Given that an admin user has logged into the system.

Select the workflow menu.

Select the Purchasing sub-menu.

Select the Purchasing sub-menu.

Select the Stock from the drop-down-menu

Select the Quantity needed.

Enter the Quantity needed.

The application calculates the total amount due.

Enter the membership ID of the customer.

Select the Submit button to complete the transaction.

Scenario 7: @@@@ AND @@@@ Query a customer
Given that an admin user is logged onto the system.

Select the Query menu.

Select the Query and Edit sub-menu.

Select the Customer item from the class drop down menu.

Select the attribute you would like to use to

Search for a customer.

Click on Search.

The application displays all users who meet the criteria entered.

Scenario 8: @@@@ Edit a customer

Given that an admin user is logged onto the system.

Given that the customer details exist with the system.

Select the Query menu.

Select the Customer item from the class drop-down menu.

Select the attribute you would like to use to

Search for a customer.

Click on Search.

The application displays all users who meet the criteria entered.

2.2 New User Stories

Scenario 9

select Workflow menu.

select Activity Function.

create Discount for specific product.

Select Valid date for discount.

Select Target for membership or birthday.

submit button to complete.

Scenario 10

Select workflow menu

Select Activity Function.

Select Create promotion.

Select Valid date for discount.

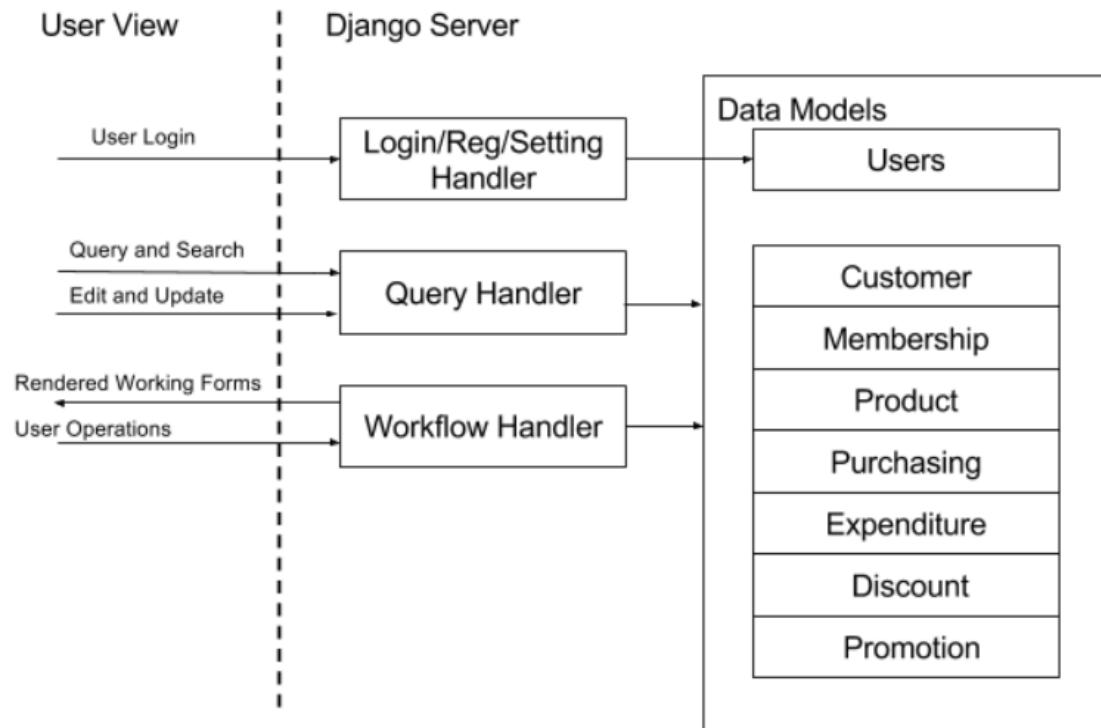
Select product for promotion.

give value for Buy N get one.

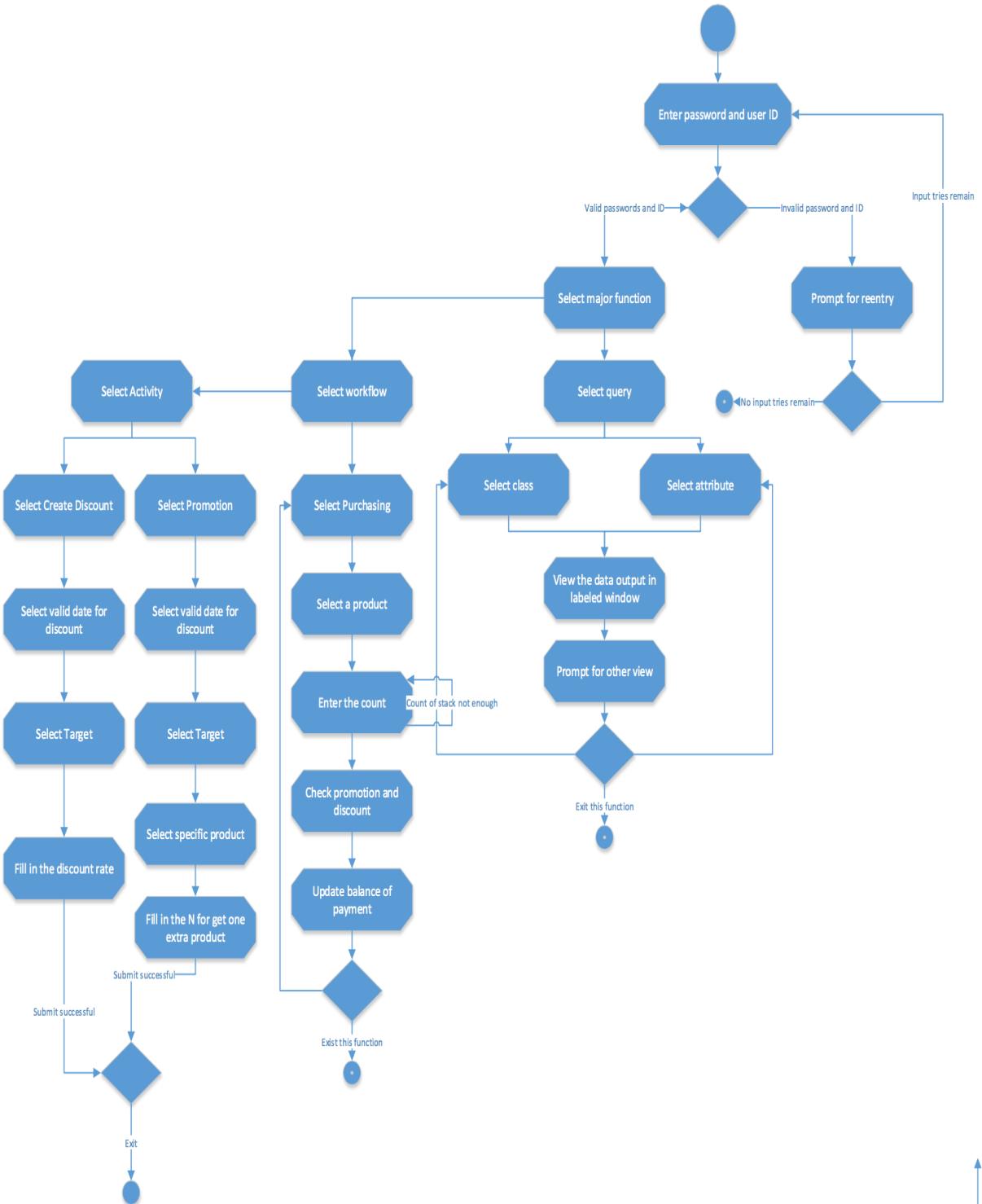
Submit button for complete.

2.3 Architecture Diagram

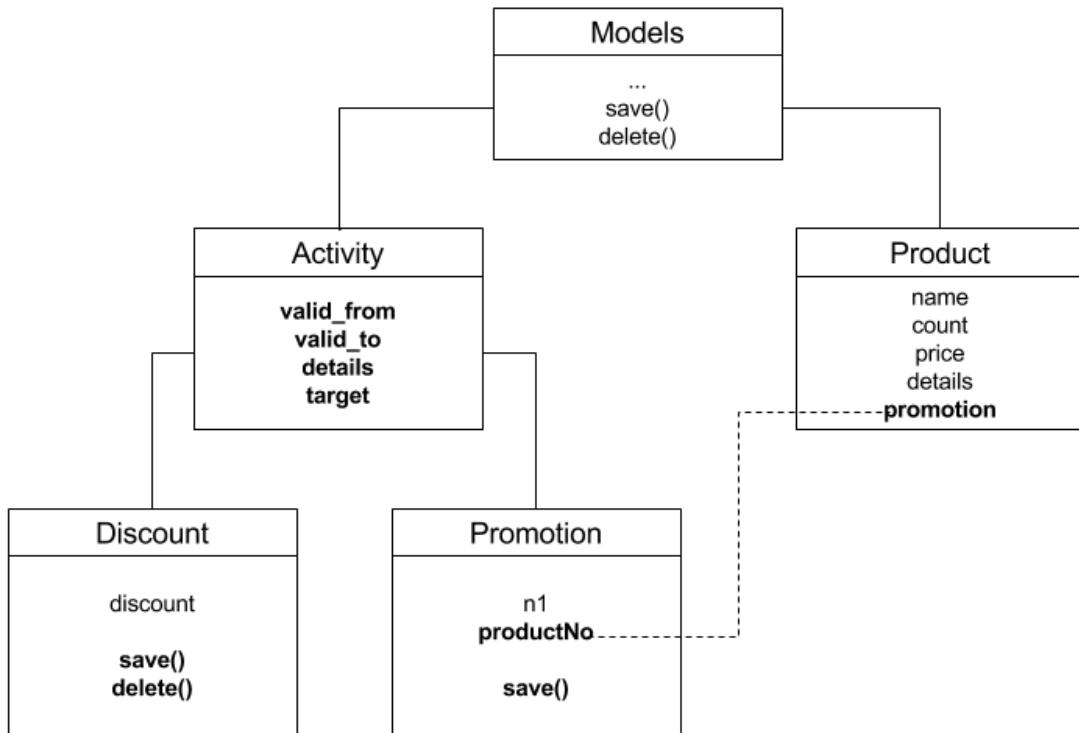
Below figure shows the overview of the web application's framework, it also demonstrate how the web view handler interact with the user view an data models. During this sprint, we add the Activity model, which include discount function and promotion function.



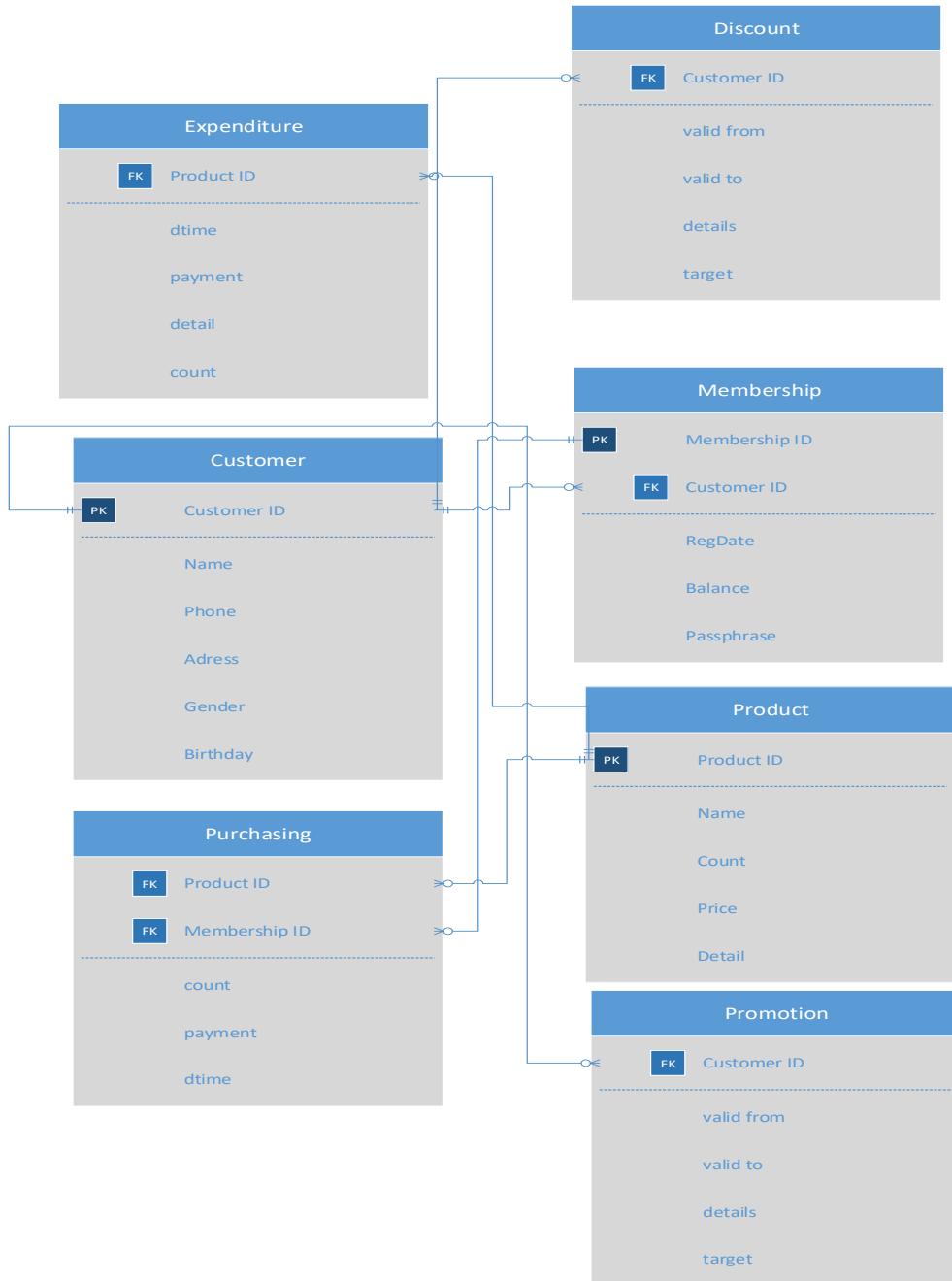
2.4 Activity Diagram



2.6 Class and Components Diagram



2.8 Database Diagram



3. Working Code

3.1 New Data Model Sample

The below models section describe the structure of Discount and Promotion Class, which are derived from interface Activity.

```
# cchen @ 20161009
class Activity(models.Model):
    valid_from = models.DateTimeField(auto_now_add=True)
    valid_to = models.DateTimeField(auto_now_add=True)
    details = models.CharField(max_length=255)
    target = models.CharField(max_length=32)

# saheed @ 20161010
# Discount for all products
class Discount(Activity):
    disc = models.DecimalField(max_digits=19, decimal_places=2)

    def save(self):
        Discount.objects.all().delete()
        super(Discount, self).save()

# Yihang Zhao @ 20161011
# Promotion for specific product
class Promotion(Activity):
    productNo = models.ForeignKey(Product, related_name='promotion', blank=True, null=True, on_delete=models.SET_NULL)
    n1 = models.BigIntegerField(null=True)
    #pmType = models.CharField(max_length=32)
    #discount = models.DecimalField(max_digits=19, decimal_places=2, null=True)

    def save(self):
        try:
            try:
                self.productNo.promotion.get()
                print 'replace the promotion of ' + self.productNo.name
                self.productNo.promotion.clear()
            except ObjectDoesNotExist:
                print 'place the promotion of ' + self.productNo.name
            except ObjectDoesNotExist:
                print 'specified product not exist.'

        super(Promotion, self).save()
```

3.2 Code Sample

Below code section demonstrate how to perform user operations on data model, in this case, it's querying the information of active Discount and Promotion.

```
# cchen @ 20161020
# Query discount and promotion info
@login_required
def act_info_get(request):
    productNo = request.POST.get('product')

    n1 = 0
    disc = 1.0
    promo_tgt = 'All'
    disc_tgt = 'All'

    try:
        today = datetime.datetime.now().date()

        # get active discount info
        dclist = Discount.objects.all()
        active_discount = None
        if len(dclist) > 0:
            active_discount = dclist[0]
        if active_discount and active_discount.valid_from.date() <= today and active_discount.valid_to.date() >= today:
            disc_tgt = active_discount.target
            disc = active_discount.disc

        # get promotion info for selected product
        promo = Promotion.objects.get(productNo=productNo)
        print promo
        if promo.valid_from.date() <= today and promo.valid_to.date() >= today:
            promo_tgt = promo.target
            n1 = promo.n1

    except:
        print "act_info_get:", sys.exc_info()[0]

    return JsonResponse({"n1": n1, "disc": disc, "promo_tgt":promo_tgt, "disc_tgt":disc_tgt})
```

3.3 User Interface Screen

This project finally delivered a website that could be deployed on web server or local computer. Below screenshots show some user interface of this application:

The screenshot shows the Waka application interface. At the top, there is a navigation bar with links for Home, Query, Workflow, About, and a user profile icon. On the left, there is a sidebar with categories: Purchasing, Membership, Expenditure, and Activity (which is highlighted with a blue background). In the main content area, there are two buttons: 'Create Discount' and 'Create Promotion'. Below these buttons, there is a form for creating a new discount. It includes fields for 'Valid From' (set to 10/01/2016) and 'Valid To' (a date picker set to October 2016, with the 26th selected). A 'Submit' button is located at the bottom of the form.

New Discount

Valid From

10/01/2016

Valid To

12/dd/yyyy

October 2016 ▾

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

Submit

The screenshot shows the Waka application interface. At the top, there is a navigation bar with links for Home, Query, Workflow, About, and a user profile icon. On the left, there is a sidebar with categories: Purchasing, Membership, Expenditure, and Activity (which is highlighted with a blue background). In the main content area, there are two buttons: 'Create Discount' and 'Create Promotion'. Below these buttons, there is a form for creating a new promotion. It includes fields for 'Valid From' (set to 10/01/2016), 'Valid To' (a date picker set to 10/07/2016), 'Target' (set to All), 'Select Product for Promotion' (set to Coke), and a text input for 'Buy N get one, fill in the value of N' (set to 2). A 'Submit' button is located at the bottom of the form.

New Promotion

Valid From

10/01/2016

Valid To

10/07/2016

Target

All

Select Product for Promotion

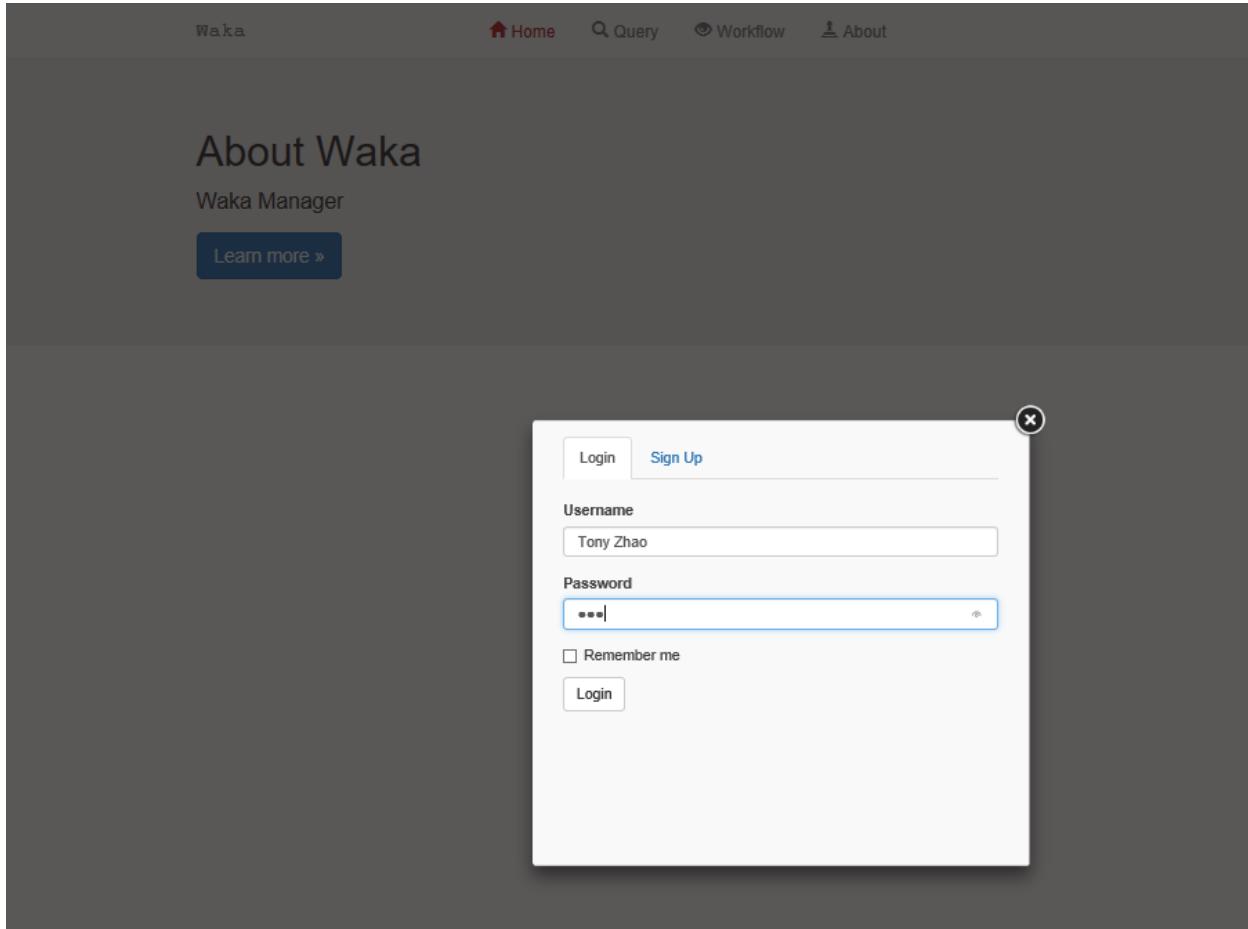
Coke

Buy N get one, fill in the value of N

2

Details

Submit



4. Project Repository and Tools

4.1 Repository

This project uses GitHub as the source code control tool. Below figure shows the screenshot of the source code repository:

The screenshot shows a GitHub repository interface. At the top, there are buttons for 'Branch: master ▾', 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download ▾'. The main area displays a list of commits from user 'cchen1983' with the message 'Fix minor bugs.' The latest commit was made 6 hours ago. Below the commit list is a table of files with their descriptions and last modified times.

File	Description	Last Modified
contacts	Add first stage development source.	2 months ago
home	Add first stage development source.	2 months ago
login	Update code comments	a month ago
query	Fix minor bugs.	6 hours ago
static	Add Activity/Discount/Promotion Modules.	18 hours ago
templates	Implement discount and promotion applying	7 hours ago
waka	Add first stage development source.	2 months ago
workflow	Fix minor bugs.	6 hours ago
.gitignore	Add first stage development source.	2 months ago
ReadMe.txt	Initialize the django project.	2 months ago
get-pip.py	Add first stage development source.	2 months ago
manage.py	Add first stage development source.	2 months ago
mysqlUtils.py	Add first stage development source.	2 months ago
waka.sql	Add first stage development source.	2 months ago
wakalnit.sql	Add first stage development source.	2 months ago
wakaTest.sql	Add first stage development source.	2 months ago

Below the file list is a single entry for 'ReadMe.txt'.

4.2 SCRUM Tool

For project management purpose, we use Scrumwise, an online SCRUM platform , to manage all the tasks and resources by evenly distributed them to multiple sprints. Below screenshot shows the situation in one of the sprints:

The screenshot displays the Scrumwise interface with the following navigation bar at the top:

- Overview
- Projects
- People
- Backlog
- Sprints
- Task board
- Burndown
- More

The main content area shows two completed sprints:

Sprint 5

DJTeam

- Activity public interface Implementation (3 d, Sprint completed)
- Promotion Class Implementation (4 d, Sprint completed)
- Discount Class implementation (4 d, Sprint completed)

Sprint 6

DJTeam

- Implement Discount/Promotion Info Query/Response. (5 d, Sprint completed)
- Integrated test and debug (3 d, Sprint completed)
- Event handler of create new promotion implementation. (5 d, Sprint completed)
- Event handler of create new discount implementation. (5 d, Sprint completed)

At the bottom left is a button labeled "Add a sprint". At the bottom right is a dropdown menu showing "Show All sprints".

5. Weekly SCRUM Sheets

COMP 5423 Software Engineering Processes, CS Dept, PVAMU Fall 2016 SCRUM MASTER DAILY/WEEKLY FORM						
<p>This form must list the date of each week, tasks assigned to each team member for the week, and the answers to the three questions that the Scrum Master must ask each team member every day. All members MUST sign the form. Entries in this form WILL contribute towards individual member grade changes. Incorrect information WILL lead to grade degradation of entire team. This form MUST be submitted to the instructor EVERY week by the SM to the instructor at beginning of class. Each team will project this form in class to present their progress in class each week.</p>						
Project Name: <u>Django DBMS</u>	Time set for call / meeting each day: <u>10:00 AM - PM</u>					
Date of each week:	<u>9/29/16</u>	<u>9/30/16</u>	<u>10/1/16</u>	<u>10/2/16</u>	<u>10/3/16</u>	<u>10/4/16</u>
Master Name: <u>Chao Chen</u>	SM: All tasks accomplished?: Yes <u>No</u>		SM Sign: <u>Chao Chen</u>			
Tasks Assigned for the week:	<u>Data model design</u> , <u>Support existing problems of teammates</u> .					
What did you do?	<u>Design Attacker Design Model</u>	<u>Design Discreet Model</u>	<u>Design Promotion Model</u>	<u>Discuss with team</u>		
What obstacles you had?	<u>Team set got some design principle</u> .					
What do you plan to achieve?	<u>Review Discreet Model code/module</u>	<u>CRC Relationship</u>	<u>Help team to learn design models</u>			
Date of each week:	<u>9/29/16</u>	<u>9/30/16</u>	<u>10/1/16</u>	<u>10/2/16</u>	<u>10/3/16</u>	<u>10/4/16</u>
Member 2 Name: <u>Yihong Zhang</u>	SM: All tasks accomplished?: Yes <u>No</u>		Mem 2 Sign: <u>Yihong Zhang</u>			
Tasks Assigned for the week:	<u>Model Prototype (Discreet)</u> , <u>Interface Design</u> .					
What did you do?	<u>Help SM to understand the Attacker Model</u>	<u>Search for example of the how to involving the attacker</u>	<u>Discuss with the team members</u> .			
What obstacles you had?	<u>Model</u>	<u>consider the priorities and importance of it in discrete</u>	<u>Learn the design principle</u> .			
What do you plan to achieve?	<u>Interface Design</u>					
Date of each week:	<u>9/29/16</u>	<u>9/30/16</u>	<u>10/1/16</u>	<u>10/2/16</u>	<u>10/3/16</u>	<u>10/4/16</u>
Member 3 Name: <u>Sabrina Adelby</u>	SM: All tasks accomplished?: Yes <u>No</u>		Mem 3 Sign: <u>Sabrina Adelby</u>			
Tasks Assigned for the week:	<u>Model Prototype (Promotion)</u> , <u>Interface Design</u> .					
What did you do?	<u>Help SM to understand the Discreet Model</u>	<u>Design Discreet Model</u>	<u>Design Promotion Model</u>			
What obstacles you had?	<u>Attacker Model</u>	<u>Attacker Model</u>	<u>Learn more information for attacker</u>			
What do you plan to achieve?	<u>Review Discreet Model</u>	<u>Complete model</u>				

COMP 5423 Software Engineering Processes, CS Dept, PVAMU
Fall 2016 SCRUM MASTER DAILY/WEEKLY FORM

This form must list the date of each week, tasks assigned to each team member for the week, and the answers to the three questions that the Scrum Master must ask each team member every day. All members MUST sign the form. Entries in this form WILL contribute towards individual member grade changes. Incorrect information WILL lead to grade degradation of entire team. This form MUST be submitted to the instructor EVERY week by the SM to the instructor at beginning of class. Each team will project this form in class to present their progress in class each week.

Project Name: Django DBMS

Time set for call/ meeting each day: 10:00 AM PM

Date of each week:	9/19/16	9/20/16	9/21/16	9/22/16	9/23/16	9/24/16	9/25/16
Master Name: <u>Chao Chen</u>	SM: All tasks accomplished?: Yes No			SM Sign: <u>Chao Chen</u>			
Tasks Assigned for the week:	Data model design. Support existing problem of team member.						
What did you do?	Design Entity Design Model, Discuss Model.	Design.	Design Model.	Discuss with team.			
What obstacles you had?	Team not get same Django principle.						
What do you plan to achieve?	Refine Entity Design Model.	CRC	Relationship?	Help team to learn Django models.			

Date of each week:	9/19/16	9/20/16	9/21/16	9/22/16	9/23/16	9/24/16	9/25/16
Member 2 Name: <u>Yihang Zhao</u>	SM: All tasks accomplished?: Yes No			Mem 2 Sign: <u>Zhao Yihang</u>			
Tasks Assigned for the week:	Model Prototype (Discuss) Interface Design.						
What did you do?	Help SM to complete the activity of the Model.	discuss the example of the head to improve the interface.	discuss with the team member.				
What obstacles you had?	Model.	consider the previous work and repeat it in detail.	learn the logic of principle.				
What do you plan to achieve?	interface design.						

Date of each week:	9/26/16	9/27/16	9/28/16	9/29/16	9/30/16	10/01/16	10/02/16
Member 3 Name: <u>Sahand Aslani</u>	SM: All tasks accomplished?: Yes No			Mem 3 Sign: <u>Sahand Aslani</u>			
Tasks Assigned for the week:	Model Prototype (Promotion) Interface Design.						
What did you do?	Discuss with team member.	Design Data Model.					
What obstacles you had?	forget to catch up on new ideas.	incomplete information for interface.					
What do you plan to achieve?	Complete new tasks.	Complete model.					