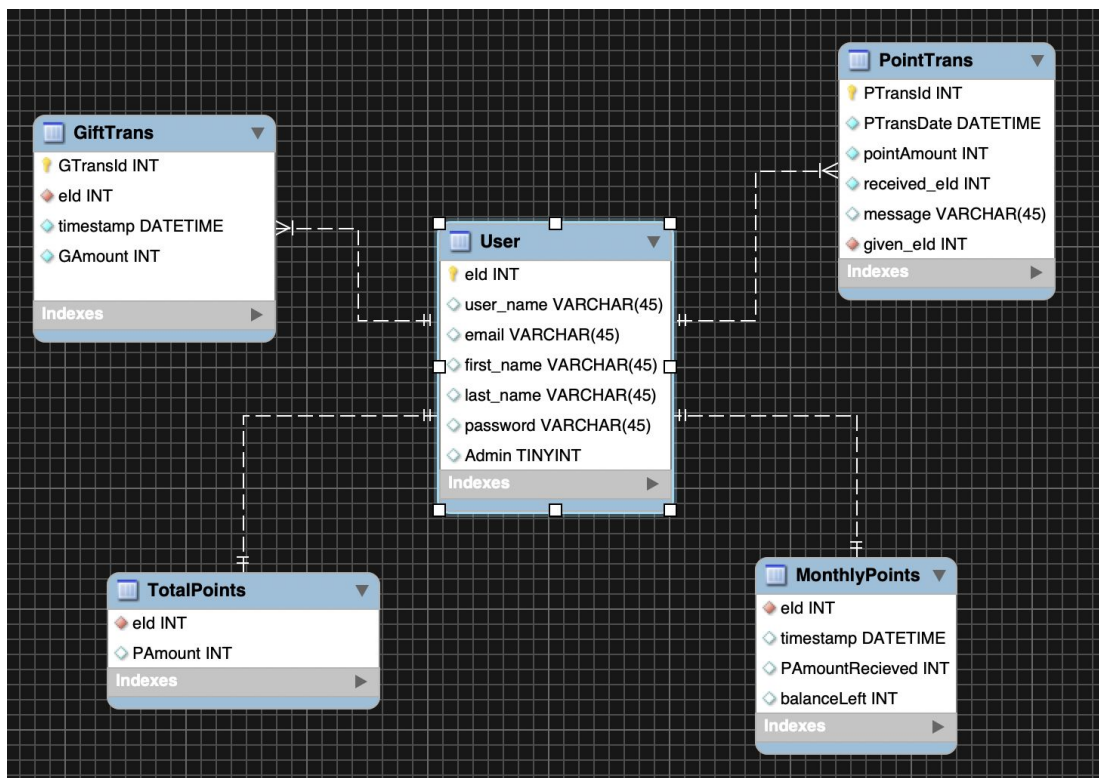


## Midterm Project

1. Team Members:  
Prajval Gupta, Pei-Hsin Ho
2. URL to Your Website:  
[emp-rewards.appspot.com](http://emp-rewards.appspot.com)
3. Credentials:

	user_name	password
Admin	prajval	Prajval@27
Users	abcd	Prajval@27
	abhishek	Password@1234
	betty	Password@123
	kelly	Password@321
	www	Prajval@27

4. ER Diagram



## 5. DDL and DML

Since we used Django for this Employee Systems, we do not have the DML and DDL when we developed, but we dumped out the DDL. Here is the DDL.

```
DROP TABLE IF EXISTS `auth_user`;
/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;
CREATE TABLE `auth_user` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `password` varchar(128) NOT NULL,
  `last_login` datetime(6) DEFAULT NULL,
  `is_superuser` tinyint(1) NOT NULL,
  `username` varchar(150) NOT NULL,
  `first_name` varchar(30) NOT NULL,
  `last_name` varchar(150) NOT NULL,
  `email` varchar(254) NOT NULL,
  `is_staff` tinyint(1) NOT NULL,
  `is_active` tinyint(1) NOT NULL,
  `date_joined` datetime(6) NOT NULL,
  PRIMARY KEY (`id`),
  UNIQUE KEY `username` (`username`)
) ENGINE=InnoDB AUTO_INCREMENT=7 DEFAULT CHARSET=utf8;
/*!40101 SET character_set_client = @saved_cs_client */;
```

```
DROP TABLE IF EXISTS `emp_reward_giftcards`;
/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;
CREATE TABLE `emp_reward_giftcards` (
  `GTransId` int(11) NOT NULL AUTO_INCREMENT,
  `timestamp` datetime(6) DEFAULT NULL,
  `GAmount` int(11) DEFAULT NULL,
  `eid_id` int(11) DEFAULT NULL,
  PRIMARY KEY (`GTransId`),
  KEY `emp_reward_giftcards_eid_id_912f01c0_fk_auth_user_id` (`eid_id`),
  CONSTRAINT `emp_reward_giftcards_eid_id_912f01c0_fk_auth_user_id` FOREIGN KEY (`eid_id`) REFERENCES `auth_user` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=14 DEFAULT CHARSET=utf8;
```

```
DROP TABLE IF EXISTS `emp_reward_monthlypoints`;
/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;
CREATE TABLE `emp_reward_monthlypoints` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `timestamp` datetime(6) NOT NULL,
  `PAmountReceived` int(11) NOT NULL,
  `balanceLeft` int(11) NOT NULL,
  `eid_id` int(11) DEFAULT NULL,
  PRIMARY KEY (`id`),
  KEY `emp_reward_monthlypoints_eid_id_97ccdb41_fk_auth_user_id` (`eid_id`),
  CONSTRAINT `emp_reward_monthlypoints_eid_id_97ccdb41_fk_auth_user_id` FOREIGN KEY (`eid_id`) REFERENCES `auth_user` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=20 DEFAULT CHARSET=utf8;
```

```
CREATE TABLE `emp_reward_pointtrans` (
  `PTransId` int(11) NOT NULL AUTO_INCREMENT,
  `PTransDate` datetime(6) DEFAULT NULL,
  `pointAmount` int(11) NOT NULL,
  `received_eId_id` int(11) DEFAULT NULL,
  `given_eId_id` int(11) DEFAULT NULL,
  `message` varchar(240) DEFAULT NULL,
  PRIMARY KEY (`PTransId`),
  KEY `emp_reward_pointtrans_given_eId_id_49107722_fk_auth_user_id` (`given_eId_id`),
  KEY `emp_reward_pointtrans_received_eId_id_651c37ac` (`received_eId_id`),
  CONSTRAINT `emp_reward_pointtrans_given_eId_id_49107722_fk_auth_user_id` FOREIGN KEY (`given_eId_id`) REFERENCES `auth_user` (`id`),
  CONSTRAINT `emp_reward_pointtrans_received_eId_id_651c37ac_fk_auth_user_id` FOREIGN KEY (`received_eId_id`) REFERENCES `auth_user` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=36 DEFAULT CHARSET=utf8;
```

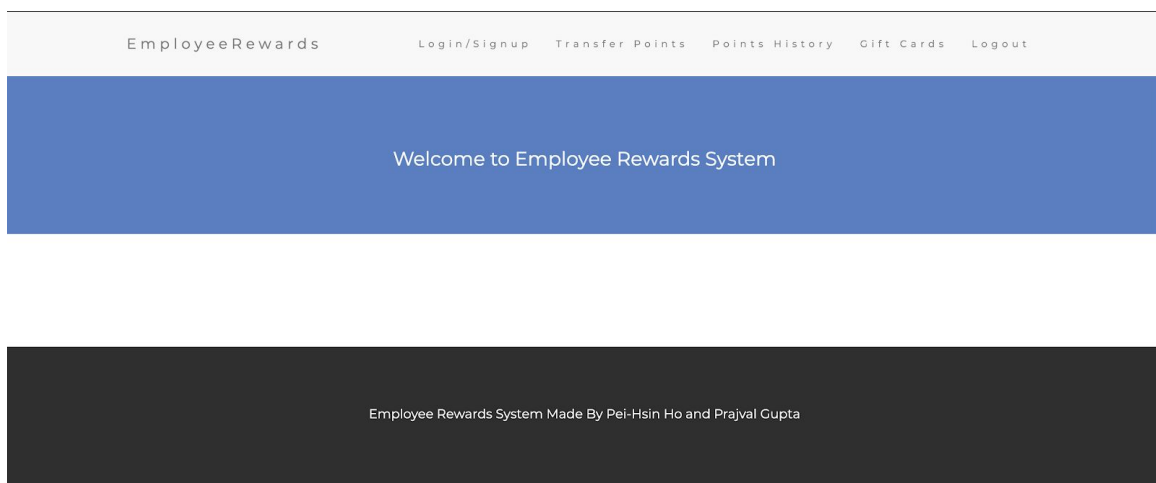
```
DROP TABLE IF EXISTS `emp_reward_totalpoints`;
/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;
CREATE TABLE `emp_reward_totalpoints` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `PAmount` int(11) NOT NULL,
  `eid_id` int(11) DEFAULT NULL,
  PRIMARY KEY (`id`),
  KEY `emp_reward_totalpoints_eid_id_75b5ede4_fk_auth_user_id` (`eid_id`),
  CONSTRAINT `emp_reward_totalpoints_eid_id_75b5ede4_fk_auth_user_id` FOREIGN KEY (`eid_id`) REFERENCES `auth_user` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=utf8;
```

## 6. Any assumptions you made that you feel important to call out

As we think, 10000 points are hard to reach for a user in a month, so we modify the rules: Users can redeem 10 points for a gift card that has the value \$1. For example, if a user redeems 40 points, he or she will get a \$4 gift card.

## 7. Our Employee Rewards System

When you enter [emp-rewards.appspot.com](http://emp-rewards.appspot.com) in your browser, the first welcome page of our system is below:



Click the Login/Signup button on the right, it will show the login pages. Type the user name and the password to log in. New users can also signup to log into our system.

EmployeeRewards Login/Signup Transfer Points Points History Gift Cards Logout

### Log in to Employee Rewards System

Username:

Password:

[Log in](#) [New to My Site? Sign up](#)

Employee Rewards System Made By Pei-Hsin Ho and Prajval Gupta

EmployeeRewards Login/Signup Transfer Points Points History Gift Cards Logout

### Sign Up Form

Username:

Required. 150 characters or fewer. Letters, digits and @/./+/-/\_ only.

First name:

Last name:

Optional

Email:

Please provide a valid email address.

Password:

<ul><li>Your password can't be too similar to your other personal information.</li><li>Your password must contain at least 8 characters.</li><li>Your password can't be a commonly used password.</li><li>Your password can't be entirely numeric.</li></ul>

Password confirmation:

Enter the same password as before, for verification.

[Sign Up Now](#) [Already registered? Log in](#)

In the meantime, the password saved on the Admin page will be encrypted using an algorithm, iterations, salt and a hash. We also dumped out the insert SQL to see if the password is encrypted.

Django administration WELCOME: prajval [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

[Home](#) > [Authentication and Authorization](#) > [Users](#) > [abcd](#)

Change user HISTORY

Username:   
Required. 150 characters or fewer. Letters, digits and @/./+/-/\_ only.

Password: **algorithm: pbkdf2\_sha256 iterations: 100000 salt: KpKMCu\*\*\*\*\* hash: JgoLwH\*\*\*\*\***  
Raw passwords are not stored, so there is no way to see this user's password, but you can change the password using [this form](#).

Personal info

First name:

Last name:

Email address:

```
LOCK TABLES `auth_user` WRITE;
/*140000 ALTER TABLE `auth_user` DISABLE KEYS */;
INSERT INTO `auth_user` VALUES (1, 'pbkdf2_sha256$100000$G8tzqmCgAslb$tH9ut2VDapyUJAG0VSBjwdStazX0Cw/z3q2wuodA8=', '2019-11-16 20:13:11.351312', 1, 'prajval', '', '', 'prajvalg');
/*140000 ALTER TABLE `auth_user` ENABLE KEYS */;
UNLOCK TABLES;
```

After logging in, click the Transfer Points page. You'll see the form to fill in who you want to give the points to and how many points as long as the thank you message you want to send. Filling all the information and click the Transfer Points button, you'll see "Points transferred successfully".

EmployeeRewards [Login/Signup](#) [Transfer Points](#) [Points History](#) [Gift Cards](#) [Logout](#)

How many points?

Who do you want to give the points to?

Do you want to add some thank you note? 

Thanks :)

The Points History pages allow Admin to review the history of giving and receiving the points as well as the gift cards from all users.

EmployeeRewards

Login/Signup

Transfer Points

Points History

Gift Cards

Logout

### Points summary for all users

Month	Employee	Total Points Given	Total Points Received
11	1	384	398
11	2	376	192
11	3	134	104
11	4	105	100

### Balances left for all users

Month	Employee	Balance Points
11	1	795

### Gift Cards redeemed by all users

Month	Employee	Gift Card Value	Points Redeemed
11	1	1	10
11	1	5	50
11	1	5	50
11	1	5	50
11	1	1	10
11	1	1	10
11	1	1	10
11	1	1	10
11	1	1	10
11	1	4	40
11	1	2	20
11	1	2	20

### Points given Out by the respective users

prajval

Received By	Month	Total Points
2	11	103
3	11	76
5	11	1
7	11	100
4	11	100
6	11	4

abcd

Received By	Month	Total Points
1	11	353
3	11	23

www

Received By	Month	Total Points
1	11	45

Under this page of Admin, there is a reset button, which is only visible to Admin, that can reset all points to give out. Click on the button, you'll see the points be reset.

#### All Transaction Details

Received By	Given By	Month	Total Points
3	7	11	5
2	1	11	103
5	1	11	1
3	1	11	76
7	1	11	100
1	2	11	353
4	1	11	100
3	2	11	23
6	1	11	4
1	3	11	45
2	3	11	89
5	7	11	100

Reset month

As for a normal user, the History Points page shows his or her record of giving and receiving points. We also insert the random points transactions and gift card redemption for the previous two months.

EmployeeRewards

Login/Signup

Transfer Points

Points History

Gift Cards

Logout

#### My Points History

abcd

Received By	Given By	Month	Total Points
2	5	Nov. 1, 2019, midnight	162
2	6	Nov. 1, 2019, midnight	12
3	2	Nov. 1, 2019, midnight	206
1	2	Nov. 1, 2019, midnight	222
2	1	Nov. 1, 2019, midnight	38
7	2	Nov. 1, 2019, midnight	174
1	2	Oct. 1, 2019, midnight	214
2	3	Oct. 1, 2019, midnight	90
2	5	Oct. 1, 2019, midnight	34
2	4	Oct. 1, 2019, midnight	206
2	5	Sept. 1, 2019, midnight	122
4	2	Sept. 1, 2019, midnight	68

This is how we generate random dummy data for the previous two months.

```
def points(N=10):
    num = 1

    for i in range(N):
        PTransDate = obj.date_time_between(start_date="-60d", end_date="now")
        pointAmount = obj.random_int(min=0, max=300)
        received_eId = User.objects.get(id=obj.random_element(elements=(1,2,3,4,5,6,7)))
        message = obj.paragraph(nb_sentences=2, variable_nb_sentences=True)
        given_eId = User.objects.get(id=obj.random_element(elements=(1,2,3,4,5,6,7)))

        # datee = datetime.datetime.strptime(PTransDate, "%Y-%m-%d")

        print(PTransDate.month)

        instance = MonthlyPoints.objects.get(eId = given_eId)

        if instance.balanceLeft > pointAmount and received_eId != given_eId:
            pointsTransc = PointTrans.objects.get_or_create(PTransDate = PTransDate, pointAmount = pointAmount, received_eId = received_eId,

            if PTransDate.month==11:
                print("Yes")
                instance.balanceLeft -= pointAmount
                instance.save()
            try:
                total_instance = TotalPoints.objects.get(eId = received_eId)
                total_instance.PAmount += pointAmount
            except:
                total_instance = TotalPoints()
                total_instance.eId = received_eId
                total_instance.PAmount = pointAmount
            total_instance.save()
            num+=1
        else:
            pass
```

Django administration

WELCOME, PRAJVAL VIEW SITE / CHANGE PASSWORD / LOG OUT

Home > Emp\_Reward > Point transs > PointTrans object (100)

Change point trans

HISTORY

PTransDate:

Date:

2019-10-20

Today

Time:

16:43:38

Now

Note: You are 6 hours behind server time.

PointAmount:

90

Received eId:

abcd

Message:

Odit repellendus rerum quasi et fuga dolores

Given eId:

www

Delete

Save and add another

Save and continue editing

SAVE

```
def gifts(N=10):
    num = 1

    for i in range(N):
        PTransDate = obj.date_time_between(start_date="-60d", end_date="now")
        pointAmount = obj.random_int(min=0, max=50)
        received_eId = User.objects.get(id=obj.random_element(elements=(1,2,3,4,5,6,7)))

        total_instance = TotalPoints.objects.get(eId = received_eId)

        if total_instance.PAmount >= 10*pointAmount:
            giftcards = GiftCards.objects.create(timestamp = PTransDate, GAmount = pointAmount, eId = received_eId)
            total_instance.PAmount -= 10*pointAmount
            num+=1
        else:
            pass
```



Django administration

WELCOME, [PRAJVAL](#) / [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home » Emp\_Reward » Gift cards » GiftCards object (29)

Change gift cards

HISTORY

Eid:

kelly

Timestamp:

Date:

2019-10-05

Today

Time:

12:41:39

Now

Note: You are 6 hours behind server time.

GAmount:

9

Delete

Save and add another

Save and continue editing

SAVE

On the Gift Cards page, you are able to input how many points you want to redeem to exchange for gift cards. If you do not have enough points, the system will show “You don’t have enough amount to redeem a gift card.”

EmployeeRewards      Login/Signup      Transfer Points      Points History      Gift Cards      Logout

How many points you want to redeem?

10000

Redeem Points

- You dont have enough amount to redeem a giftcard

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