Project Implementation Report
Video Captioning Project: User Engagement

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Abstract:

The project focuses on development of a relational database that will be used for storing and studying user feedback and engagement data to improve the quality of automated captions generated by Syracuse University.
Before automated caption generator, the university was outsourcing caption generation work to the professionals which was not only expensive process to the university but it also included a human intervention in the process.

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Video Captioning: Project Summary

Over the past decade with the advent of internet, the Massive Open Online courses (MOOC's) have been very popular and are been accessed by many students across the globe. Sometimes, the course takers may have difficulties in understanding the language accent of the instructors. Apart from the language barrier, there exists a set of disabled (Deaf) users who may wish to access these courses. To address the above mentioned two issues usually captions are provided with the course videos.

I will be helping Syracuse University in development of Video Captioning project, where by using certain APIs, video captions will be generated for in-house produced videos. Earlier, the above mentioned work was delegated to professionals who used to write captions for the videos which was expensive to the university.

Now, the captions generated were not accurate as it used to be earlier. Therefore, this project included a feature where a user (student) could watch a video as well as edit, comment and question the captions while watching a video.

To understand which user made a certain edit in the caption, there must be a track of user of user activity. Therefore, to track the user activity I will be designing a relational database which will hold all the user data.

Designed Solution:

- The user will log in via a web graphical user interface
- There will be two different login pages, one for the instructor and other for student
- Once the user is logged in, the user can view the video and edit, comment and question the captions.
- The instructor or administrator will approve the changes made by the user.
- There will be a tracker which will keep a check on the user engagement activity like number of videos liked by the user, number of comments made, number of clicks made during the video, number of sad smileys clicked during watching a video.
- This tracker will help the instructors to understand the engagement of their videos and will help them to further improve their videos.
- To track and check the user engagement, I will be developing a relational database which will store all the user activity data

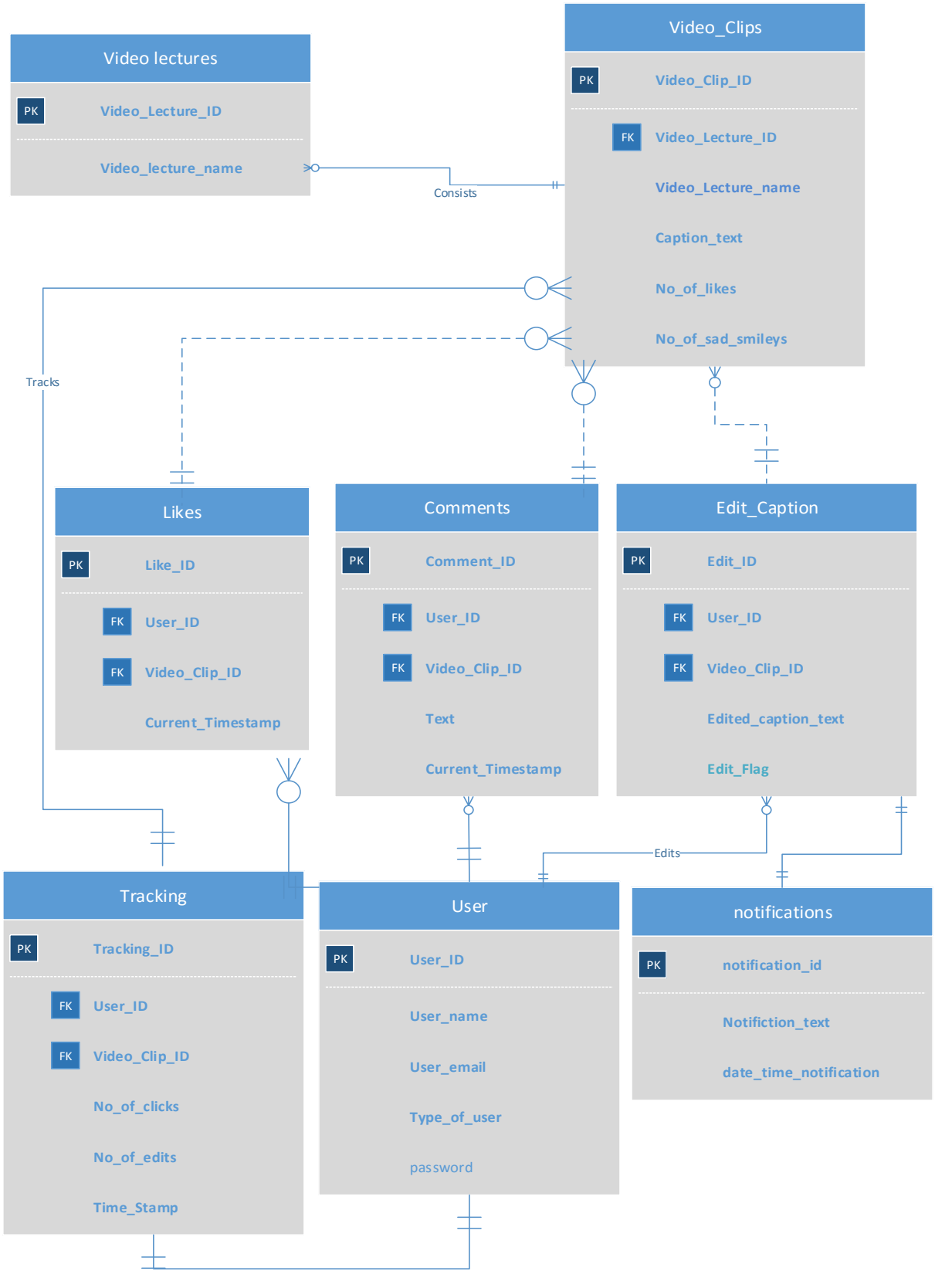
TABLES and ATTRIBUTES:

Video Lectures	**Consists information about all the Video Lecture Series**
video_lecture_ID (PK)	Each Video lecture will have an unique identity number
Video_lecture_name	Name of each video lecture
Video Clips	**Consists information about all the video clips in a video lecture**
video_clip_ID (PK)	Each video clip will have an unique identity number
video_clip_name	Name of the Video Clip
caption_text	Stores a string data of video captions
No_of_likes	Stores number of likes received by the video
No_of_sad_smileys	Stores number of dislikes in the caption statement
Comments	**Stores data about particular comment made by the user**
Comment_ID (PK)	Uniquely identifies each comment by unique identity number
User_ID (FK)	Required to identify the user who commented ; associated with the primary key of user table
Video_Clip_ID (FK)	Required to identify the video clip on which comment has been made; associated with the primary key of Video Clips table
text_s	Stores text of the comment made
Current_timestamp	Stores the timestamp of comment

Likes	**Store data about likes made a particular user**
Like_ID (PK)	Uniquely identifies each like by unique identity number
User_ID (FK)	Required to identify the user who liked a video; associated with the primary key of user table
Video_Clip_ID (FK)	Required to identify the video clip on which like has been made; associated with the primary key of Video Clips table
Current_timestamp	Stores the timestamp of Like made
Edit Caption	**Stores data about captions edited by the user**
Edit_ID (PK)	Uniquely identifies each edit by unique identity number
User_ID (FK)	Required to identify the user who edited a video; associated with the primary key of user table
Video_Clip_ID (FK)	Required to identify the video clip on which edit has been made; associated with the primary key of Video Clips table
Edited_Caption_Text	Stores the text of edit been made
Edit_Flag	Checks weather the edited caption is approved
User	**Stores data about a particular user**
User_ID (PK)	Uniquely identifies each user by unique identity number
User_name	
User_email	
User_type	Determines a particular user is an instructor or a student
Pass	Password stored for the user
Tracking	**Stores tracking data about a particular user**
Tracking_ID (PK)	Uniquely identifies a tracking number for a particular user
User_ID (FK)	
Video_Clip_ID (FK)	

No_of_Clicks No_of_Edits Time_Stamp	Number of Clicks made by user while watching video Number of Edits made by user while watching a video
Notifications	**Sends Notification messages to the administrator**
Notification_ID (PK) Notification_text Date_time_notifications	Uniquely identifies a notification number for a particular user Notification message sent to the user Time of the notification

Entity Relationship Diagram:



Business Rules:

1. A Video Lecture consists of at least one or more video clips
2. A Video Clip is a part of exactly one video lecture series
3. A User can like, comment ,edit, etc. zero or more video clips
4. Tracking can be one user at a particular time
5. A User can be tracked only once at a particular time
6. One more videos are being tracked at a particular time
7. One notification is added when one caption is edited

Database Infrastructure:

The database infrastructure is based on client-server model. SQL server is used as the database engine and access is used as the interface design tool. Data is inserted, deleted, updated and queried from the SQL server database with the help of forms on Access. Useful data stored on SQL database can also be viewed with the help of reports generated through access.

SQL SCRIPTS FOR CREATING AND INSERTING SAMPLE DATA:

CREATE: video_lectures

```
CREATE TABLE video_lectures
 (
 video_lecture_id INTEGER PRIMARY KEY NOT NULL,
 video_lecture_name VARCHAR(30) NOT NULL
 );
```

CREATE: video_clips

```
CREATE TABLE video_clips
(
video_clip_id  INTEGER PRIMARY KEY NOT NULL,
video_lecture_id INTEGER NOT NULL,
video_clip_name VARCHAR(2000) NOT NULL,
caption_text VARCHAR(2000) NOT NULL,
no_of_likes INTEGER NOT NULL,
no_of_sad_smileys INTEGER NOT NULL
CONSTRAINT video_clips_FK FOREIGN KEY(video_lecture_id) REFERENCES video_lectures(video_lecture_id),
);
```

CREATE: users

```
CREATE TABLE users
 (
 users_id  INTEGER PRIMARY KEY NOT NULL,
 email_id VARCHAR(200) NOT NULL,
 name VARCHAR(200) NOT NULL,
 type_of_user VARCHAR(2) NOT NULL,
 pass VARCHAR(10) NOT NULL
 );
```

CREATE: likes

```
CREATE TABLE likes
 (
 like_id  VARCHAR(200) PRIMARY KEY,
 users_id INTEGER NOT NULL,
 video_clip_id INTEGER NOT NULL,
 current_time_stamp DATETIME NOT NULL

 CONSTRAINT like_FK FOREIGN KEY(users_id) REFERENCES users(users_id),
 CONSTRAINT like_FK1 FOREIGN KEY(video_clip_id) REFERENCES video_clips(video_clip_id),
 );
```

CREATE: comments

```
CREATE TABLE comments
(
comment_id  VARCHAR(200) PRIMARY KEY,
users_id INTEGER NOT NULL,
video_clip_id INTEGER NOT NULL,
text_s VARCHAR(2000) NOT NULL,
current_time_stamp DATETIME NOT NULL

CONSTRAINT comment_FK FOREIGN KEY(users_id) REFERENCES users(users_id),
CONSTRAINT comment_FK1 FOREIGN KEY(video_clip_id) REFERENCES video_clips(video_clip_id),
);
```

CREATE: edit_captions

```
CREATE TABLE edit_caption
(
caption_id  VARCHAR(200) PRIMARY KEY,
users_id INTEGER NOT NULL,
video_clip_id INTEGER NOT NULL,
edited_text VARCHAR(2000) NOT NULL,
flag VARCHAR(2) NOT NULL,
current_time_stamp DATETIME NOT NULL

CONSTRAINT edit_caption_FK FOREIGN KEY(users_id) REFERENCES users(users_id),
CONSTRAINT edit_caption_FK1 FOREIGN KEY(video_clip_id) REFERENCES video_clips(video_clip_id),
);
```

CREATE: tracking

```
CREATE TABLE tracking
(
tracking_id  VARCHAR(200) PRIMARY KEY,
users_id INTEGER NOT NULL,
video_clip_id INTEGER NOT NULL,
no_of_clicks INTEGER NOT NULL,
no_of_edits INTEGER NOT NULL,
current_time_stamp DATETIME NOT NULL

CONSTRAINT tracking_FK FOREIGN KEY(users_id) REFERENCES users(users_id),
CONSTRAINT tracking_FK1 FOREIGN KEY(video_clip_id) REFERENCES video_clips(video_clip_id),
);
```

CREATE: notifications

```
CREATE TABLE notifications(

notification_id INT  NOT NULL IDENTITY(1,1) PRIMARY KEY,
message_text VARCHAR(200),
message_time datetime NOT NULL DEFAULT GETDATE()
);
```

Insert Data in video_lectures Table:

```
INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('1','Introduction to Management');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('2','DataBase Management');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('3','Applied Data Science');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('4','System Analysis and Auditing');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('5','Data Mining');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('6','Internal Auditing');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('7','Statistics for Engineers');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('8','Data Structures');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('9','Designs And Algorithms');

INSERT INTO video_lectures(video_lecture_id,video_lecture_name)
VALUES ('10','Supply Chain Management');
```

```
select * from video_lectures;
```

100 %

Results | Messages

	video_lecture_id	video_lecture_name
1	1	Introduction to Management
2	2	DataBase Management
3	3	Applied Data Science
4	4	System Analysis and Auditing
5	5	Data Mining
6	6	Internal Auditing
7	7	Statistics for Engineers
8	8	Data Structures
9	9	Designs And Algorithms
10	10	Supply Chain Management

Query executed successfully.

Insert Data in video_clips Table:

```
INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('1','1','Information Management Introduction','Welcome to Information Management.
This is week 1','23','30');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('2','1','Processes','Welcome to Week 2.Here we will learn about
processes','30','2');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('3','1','Business Requirement Documentation','Welcome to Week 3. Last week we saw
about processes','32','0');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('4','2','ER Diagrams','Welcome to DataBases. This is week 1','50','5');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('5','2','Multiple Diagrams','Welcome to DataBases. This is week 2','40','5');
```

```
INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('6','2','Relationships','This is week we will learn about Relationships','50','4');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('7','2','SQL ','Welcome to week 3. We will learn about SQL querying','45','5');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('8','3','Data Architechture','Welcome to week 1. We will learn about Data
Architechure','50','0');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('9','3','Regression','Welcome to week 2. We will learn about Regression
Techniques','45','5');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('10','3','Data Modelling','Welcome to week 3. We will learn about data
modeling','53','3');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('11','3','Business Models','Welcome to week 1. We will learn about Business
models','30','10');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('12','3','Process Flows','Welcome to week 2. We will learn about Process
Flows','50','3');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('13','4','BRD','Welcome to week 1. We will learn about Business
Requirements','58','3');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('14','4','User Case Study','Welcome to week 2. We will learn about Case
Study','59','2');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('15','4','Data flow diagram','Welcome to week 3. We will learn about Data Flow
Diagrams','49','4');
```

```
INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_s
ad_smileys)
VALUES ('16','5','Data Visualization','Welcome to week 1. We will learn about Exploratory
Data Analysis','60','1');


INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_sad_sm
ileys)
VALUES ('17','5','User Case Study','Welcome to week 2. We will learn about Case
Study','59','2');

INSERT INTO
video_clips(video_clip_id,video_lecture_id,video_clip_name,caption_text,no_of_likes,no_of_sad_sm
ileys)
VALUES ('18','6','Predictive Modelling','Welcome to week 3. We will learn about
Models','60','1');
```

```
select * from video_clips;
```

100 %

Results | Messages

	video_clip_id	video_lecture_id	video_clip_name	caption_text	no_of_likes	no_of_sad_smileys
1	1	1	Information Management Introduction	Welcome to Information Management. This is week 1	23	30
2	2	1	Processes	Welcome to Week 2.Here we will learn about processes	30	2
3	3	1	Business Requirement Documentation	Welcome to Week 3. Last week we saw about proces...	32	0
4	4	2	ER Diagrams	Welcome to DataBases. This is week 1	50	5
5	5	2	Multiple Diagrams	Welcome to DataBases. This is week 2	40	5
6	6	2	Relationships	This is week we will learn about Relationships	50	4
7	7	2	SQL	Welcome to week 3. We will learn about SQL querying	45	5
8	8	3	Data Architechture	Welcome to week 1. We will learn about Data Architec...	50	0
9	9	3	Regression	Welcome to week 2. We will learn about Regression T...	45	5
10	10	3	Data Modelling	Welcome to week 3. We will learn about data modeling	53	3
11	11	3	Business Models	Welcome to week 1. We will learn about Business mod...	30	10

Query executed successfully. ist-s-students.syr.edu (12.... pkulwal6591 (57)

Insert Data in users Table:

```
INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(1,'pkulwal@syr.edu','Pratyush Kulwal','1','pkulwal');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(2,'sachin@syr.edu','Sachin Tendulkar','0','sachin');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(3,'rahuldr@syr.edu','Rahul Dravid','0','rahul');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(4,'hpttr@syr.edu','Harry Potter','0','harry');
```

```
INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(5,'ronaldojr@syr.edu','Christiano Ronaldo','0','ronaldo');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(6,'bfranklin@syr.edu','Benjamin Franklin','1','benjamin');


INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(7,'newton@syr.edu','Isaac Newton','1','isaac');


INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(8,'ellonmusk@syr.edu','Ellon Musk','1','ellon');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(9,'prbathij@syr.edu','Pankaj Bathija','1','pankaj');

INSERT INTO users(users_id,email_id,name,type_of_user,pass)
VALUES(10,'kgbhaya@syr.edu','Komal Bhaya','0','komal');
```

```
select * from users;
```

100 %

Results | Messages

	users_id	email_id	name	type_of_user	pass
1	1	pkulwal@syr.edu	Pratyush Kulwal	1	pkulwal
2	2	sachin@syr.edu	Sachin Tendulkar	0	sachin
3	3	rahuldr@syr.edu	Rahul Dravid	0	rahul
4	4	hpttr@syr.edu	Harry Potter	0	harry
5	5	ronaldojr@syr.edu	Christiano Ronaldo	0	ronaldo
6	6	bfranklin@syr.edu	Benjamin Franklin	1	benjamin
7	7	newton@syr.edu	Isaac Newton	1	isaac
8	8	ellonmusk@syr.edu	Ellon Musk	1	ellon
9	9	prbathij@syr.edu	Pankaj Bathija	1	pankaj
10	10	kgbhaya@syr.edu	Komal Bhaya	0	komal

Query executed successfully.

Insert Data in likes Table:

```
INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(111,1,1,'');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(123,2,12,'2015-01-11 12:00:00.000');


INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(133,7,11,'2015-01-11 12:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(134,6,10,'2015-11-11 01:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(137,3,11,'2015-01-03 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(138,8,11,'2015-01-04 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
 VALUES(139,6,13,'2015-01-04 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(140,5,12,'2015-01-04 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(141,3,17,'2015-01-04 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(142,3,14,'2015-01-13 11:00:00.000');
INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(143,2,13,'2015-01-23 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(144,3,11,'2015-01-12 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(145,4,15,'2015-01-12 11:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(146,4,12,'2015-01-12 1:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(147,4,9,'2015-12-12 13:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(148,4,2,'2015-12-12 12:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(149,4,4,'2015-12-12 10:00:00.000');

INSERT INTO likes(like_id,users_id,video_clip_id,current_time_stamp)
VALUES(150,4,9,'2015-12-12 09:00:00.000');
```

```
select * from likes;
```

00 %

Results | Messages

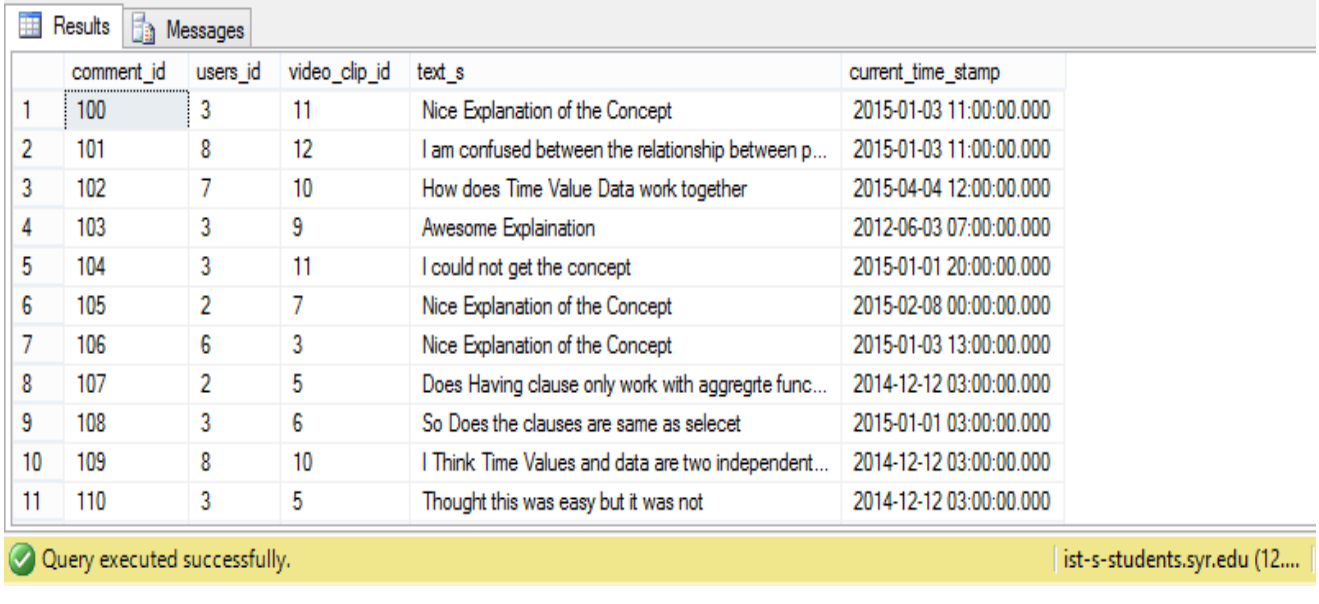
	like_id	users_id	video_clip_id	current_time_stamp
1	111	1	1	1900-01-01 00:00:00.000
2	123	2	12	2015-01-11 12:00:00.000
3	133	7	11	2015-01-11 12:00:00.000
4	134	6	10	2015-11-11 01:00:00.000
5	137	3	11	2015-01-03 11:00:00.000
6	138	8	11	2015-01-04 11:00:00.000
7	139	6	13	2015-01-04 11:00:00.000
8	140	5	12	2015-01-04 11:00:00.000
9	141	3	17	2015-01-04 11:00:00.000
10	142	3	14	2015-01-13 11:00:00.000
11	143	2	13	2015-01-23 11:00:00.000

Query executed successfully.

Insert Data in comments Table:

```
INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(100,3,11,'Nice Explanation of the Concept','2015-01-03 11:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(101,8,12,'I am confused between the relationship between process flows and
BRD','2015-01-03 11:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(102,7,10,'How does Time Value Data work together','2015-04-04 12:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(103,3,9,'Awesome Explaination','2012-06-03 07:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(104,3,11,'I could not get the concept','2015-01-01 20:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(105,2,7,'Nice Explanation of the Concept','2015-02-08 00:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(106,6,3,'Nice Explanation of the Concept','2015-01-03 13:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(107,2,5,'Does Having clause only work with aggregrte functions','2014-12-12
03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(108,3,6,'So Does the clauses are same as selecet','2015-01-01 03:00:00.000');
```

```
INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(109,8,10,'I Think Time Values and data are two independent stuff','2014-12-12
03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(110,1,1,'Nice Video','2014-12-12 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(111,2,2,'Easy Explaination','2014-12-23 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(112,3,3,'Thought this was easy but it was not','2014-12-24 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(113,4,4,'Thoughts to be given about data','2014-12-12 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(114,6,5,'How does Data storage happen','2014-12-22 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(115,7,6,'Awesome Explaination','2014-12-24 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(116,8,7,'Lucid and Clear','2014-12-11 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(117,9,8,'Amazing thought process','2014-12-23 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(118,2,9,'Thought this was easy but it was not','2015-12-11 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(119,5,10,'Thought this was easy but it was not','2014-12-11 03:00:00.000');

INSERT INTO comments(comment_id,users_id,video_clip_id,text_s,current_time_stamp)
VALUES(120,2,11,'Thought this was easy but it was not','2014-12-10 03:00:00.000');
```



Results | Messages

	comment_id	users_id	video_clip_id	text_s	current_time_stamp
1	100	3	11	Nice Explanation of the Concept	2015-01-03 11:00:00.000
2	101	8	12	I am confused between the relationship between p...	2015-01-03 11:00:00.000
3	102	7	10	How does Time Value Data work together	2015-04-04 12:00:00.000
4	103	3	9	Awesome Explaination	2012-06-03 07:00:00.000
5	104	3	11	I could not get the concept	2015-01-01 20:00:00.000
6	105	2	7	Nice Explanation of the Concept	2015-02-08 00:00:00.000
7	106	6	3	Nice Explanation of the Concept	2015-01-03 13:00:00.000
8	107	2	5	Does Having clause only work with aggregrte func...	2014-12-12 03:00:00.000
9	108	3	6	So Does the clauses are same as selecet	2015-01-01 03:00:00.000
10	109	8	10	I Think Time Values and data are two independent...	2014-12-12 03:00:00.000
11	110	3	5	Thought this was easy but it was not	2014-12-12 03:00:00.000

Query executed successfully. ist-s-students.syr.edu (12....

Insert Data in edit_caption Table:

```
INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(100,2,5,'Welcome to DataBases. This is week Two',1,'2014-12-12 03:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(101,3,5,'Welcome to DataBases. This is week Two',1,'2014-02-12 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(103,7,5,'Welcome to DataBases. This is week Three',1,'2015-01-01 03:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(104,4,18,'Welcome to week 3. We will learn about Data Models',1,'2015-01-01
04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(105,2,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(106,2,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(107,3,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(108,3,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(109,4,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');

INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(110,5,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');
INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp)
VALUES(111,1,8,'Welcome to week 1. We will learn about Data Architechure and Analysis',1,'2015-
01-01 04:00:00.000');
```

Results | Messages

	caption_id	users_id	video_clip_id	edited_text	flag	current_time_stamp
1	100	2	5	Welcome to DataBases. This is week Two	1	2014-12-12 03:00:00.000
2	101	3	5	Welcome to DataBases. This is week Two	1	2014-02-12 04:00:00.000
3	102	4	4	Welcome to DataBases. This is week One	1	2015-01-01 03:00:00.000
4	103	7	5	Welcome to DataBases. This is week Three	1	2015-01-01 03:00:00.000
5	104	4	18	Welcome to week 3. We will learn about Data Models	1	2015-01-01 04:00:00.000
6	105	2	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
7	106	2	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
8	107	3	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
9	108	3	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
10	109	4	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
11	110	5	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000

Query executed successfully. ist-s-students.syr.edu (12.... p

Insert Data in tracking Table:

```
INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(1,2,3,42,1,'2015-01-01 03:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(2,3,5,20,1,'2015-02-12 04:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(3,4,4,22,1,'2015-01-01 03:10:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(4,2,10,2,0,'2014-11-11 23:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(5,5,2,24,0,'2015-03-03 03:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(6,6,5,22,0,'2015-03-03 01:00:00.000');
INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(7,7,18,21,0,'2015-03-04 01:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(8,9,11,29,0,'2015-03-02 01:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(9,5,2,11,0,'2015-03-01 04:00:00.000');

INSERT INTO
tracking(tracking_id,users_id,video_clip_id,no_of_clicks,no_of_edits,current_time_stamp)
VALUES(10,4,6,12,0,'2015-03-02 05:00:00.000');
```

```
select * from tracking;
```

00 %

Results | Messages

	tracking_id	users_id	video_clip_id	no_of_clicks	no_of_edits	current_time_stamp
1	1	2	3	42	1	2015-01-01 03:00:00.000
2	10	4	6	12	0	2015-03-02 05:00:00.000
3	2	3	5	20	1	2015-02-12 04:00:00.000
4	3	4	4	22	1	2015-01-01 03:10:00.000
5	4	2	10	2	0	2014-11-11 23:00:00.000
6	5	1	4	22	0	2015-03-03 03:00:00.000
7	6	6	5	22	0	2015-03-03 01:00:00.000
8	7	7	18	21	0	2015-03-04 01:00:00.000
9	8	9	11	29	0	2015-03-02 01:00:00.000
10	9	5	2	11	0	2015-03-01 04:00:00.000

Major Data Questions:

The users of my database system will primarily include three type of users:

- Users (People who access Videos)
- Course instructors
- Technical Staff

Why a user queries the database

- The Users should be able view all the video catalogue available to him/her

  This can be done by querying the Video Clip table, where all the information about the video clip is stored. The user can access the Video Clip table and see the list of available videos

```
select video_lecture_name from video_lectures;
```

100 %

Results | Messages

	video_lecture_name
1	Introduction to Management
2	DataBase Management
3	Applied Data Science
4	System Analysis and Auditing
5	Data Mining
6	Internal Auditing
7	Statistics for Engineers
8	Data Structures
9	Designs And Algorithms
10	Supply Chain Management

Query executed successfully.

```
select video_clip_name from video_clips;
```

100 %

Results | Messages

	video_clip_name
1	Information Management Introduction
2	Processes
3	Business Requirement Documentation
4	ER Diagrams
5	Multiple Diagrams
6	Relationships
7	SQL
8	Data Architechture
9	Regression
10	Data Modelling
11	Business Models

Query executed successfully. ist-s-students.syr.edu (12....

- Users must have the rights to comment, edit and put questions on the caption sentences.

  Whenever a user comments, edits, likes or questions a caption. The record is stored in a table which depending upon what kind of activity the user has performed

  The record is stored in the following table(s) comments, likes and edit_caption table respectively when the user watches the video in the system User-Interface.

  There will be a login form developed to solve this question, where every user with a legitimate access rights will be granted rights to comment, edit or like a video post.

- Users must be able to see the history of their activity on the website.
  This has been done by querying three tables; like, comment and edited captions individually.
  The filter has been applied with the help of User interface made in access where student is able to see his/her history.

Why a course instructor queries the database

The Course Instructor should only be given rights to access information regarding their own videos.
Instructors may want to query the database because they want to find out about:

- Trending Courses
  This can be done by querying table(s) video_lectures, video_clips, likes and comments. Based on likes and comments by the user we have selected the top 3 trending videos.

```
/* Q3. Current Trending Courses */

select  DISTINCT vl.video_lecture_name from video_lectures as vl
inner join video_clips as vc on vc.video_lecture_id = vl.video_lecture_id
inner join likes as l on l.video_clip_id = vc.video_clip_id
inner join comments as c on l.video_clip_id = c.video_clip_id ;
```

100 %

Results | Messages

	video_lecture_name
1	Applied Data Science
2	DataBase Management
3	Introduction to Management

- Number of likes and dislikes for the video

  Number of likes and dislikes can be obtained by querying the 'video_clips' database.

```
select video_clip_name,no_of_likes,no_of_sad_smileys from video_clips;
```

100 %

Results | Messages

	video_clip_name	no_of_likes	no_of_sad_smileys
1	Information Management Introduction	23	30
2	Processes	30	2
3	Business Requirement Documentation	32	0
4	ER Diagrams	50	5
5	Multiple Diagrams	40	5
6	Relationships	50	4
7	SQL	45	5
8	Data Architechture	50	0
9	Regression	45	5
10	Data Modelling	53	3
11	Business Models	30	10

- Editing requests for the captions

  Whenever a user makes an edit in the captions; the data is stored in 'Edit_captions', now in order to know that the caption is approved or not; we can query the 'Edit captions' based on edit_flag field; if the field has a non-zero value then instructor can review and approve the modified caption.

  As soon as instructor approves the caption, the edit_flag value changes to zero.

100 %

Results | Messages

	caption_id	users_id	video_clip_id	edited_text	flag	current_time_stamp
1	100	2	5	Welcome to DataBases. This is week Two	1	2014-12-12 03:00:00.000
2	101	3	5	Welcome to DataBases. This is week Two	1	2014-02-12 04:00:00.000
3	102	4	4	Welcome to DataBases. This is week One	1	2015-01-01 03:00:00.000
4	103	7	5	Welcome to DataBases. This is week Three	1	2015-01-01 03:00:00.000
5	104	4	18	Welcome to week 3. We will learn about Data Models	1	2015-01-01 04:00:00.000
6	105	2	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
7	106	2	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
8	107	3	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
9	108	3	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
10	109	4	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000
11	110	5	8	Welcome to week 1. We will learn about Data Archi...	1	2015-01-01 04:00:00.000

- Find out recently liked videos by the users
  This can be done by querying video_clip table and like table together and ordering the results by the current time stamp.

```
/* Q5. Recently Liked Video by the user */
select TOP 1 vc.video_clip_name from video_clips as vc
inner join likes l on l.video_clip_id = vc.video_clip_id order by current_time_stamp desc ;
```

00 %

Results | Messages

	video_clip_name
1	Regression

Query executed successfully. ist-s-students.syr.edu (12....

- Find out recently commented videos by the users
  This can be done by querying video_clip table and comments table together and ordering the results by the current time stamp.

```
/* Q6. Recently Commented Video by the user */
select TOP 1 vc.video_clip_name from video_clips as vc
inner join comments c on c.video_clip_id = vc.video_clip_id order by current_time_stamp desc ;
```

0 %

Results | Messages

	video_clip_name
	Regression

- Find out most active user

  This can be done by querying video_clip table, users and tracking table together and ordering the results by number of clicks and number of edits.

```
select u.name,vc.video_clip_name,t.no_of_clicks,t.no_of_edits from video_clips as vc
inner join tracking as t on t.video_clip_id = vc.video_clip_id
inner join users as u on u.users_id=t.users_id order by t.no_of_clicks desc,t.no_of_edits desc ;
```

100 %

Results | Messages

	name	video_clip_name	no_of_clicks	no_of_edits
1	Sachin Tendulkar	Business Requirement Documentation	42	1
2	Pankaj Bathija	Business Models	29	0
3	Harry Potter	ER Diagrams	22	1
4	Pratyush Kulwal	ER Diagrams	22	0
5	Benjamin Franklin	Multiple Diagrams	22	0
6	Isaac Newton	Predictive Modelling	21	0
7	Rahul Dravid	Multiple Diagrams	20	1
8	Harry Potter	Relationships	12	0
9	Christiano Ronaldo	Processes	11	0
10	Sachin Tendulkar	Data Modelling	2	0

- Find out recently watched video by the user

  This can be done by querying video_clip table, likes and comments table together and aggregating the results based on video_clip_id.

```
/* Q. Recently Watched Video by the user */
select video_clip_name from video_clips where video_clip_id = (Select TOP 1 video_clip_id
from
(
Select video_clip_id, max(current_time_stamp)'Maximum' from likes group by video_clip_id
UNION ALL
Select  video_clip_id, max(current_time_stamp)'Maximum' from comments group by video_clip_id
) as subquery
 group by video_clip_id)
```

Results | Messages

video_clip_name
Information Management Introduction

- Find out which student is enrolled in which course
  This can be done by querying video_clip table, tracking,users,video_lectures table together .

```
/* Q8. Which Student is enrolled in which course */
select u.name,vl.video_lecture_name from video_clips as vc
inner join tracking as t on t.video_clip_id = vc.video_clip_id
inner join video_lectures vl on vl.video_lecture_id =vc.video_lecture_id
inner join users as u on u.users_id=t.users_id;
```

100 %

Results | Messages

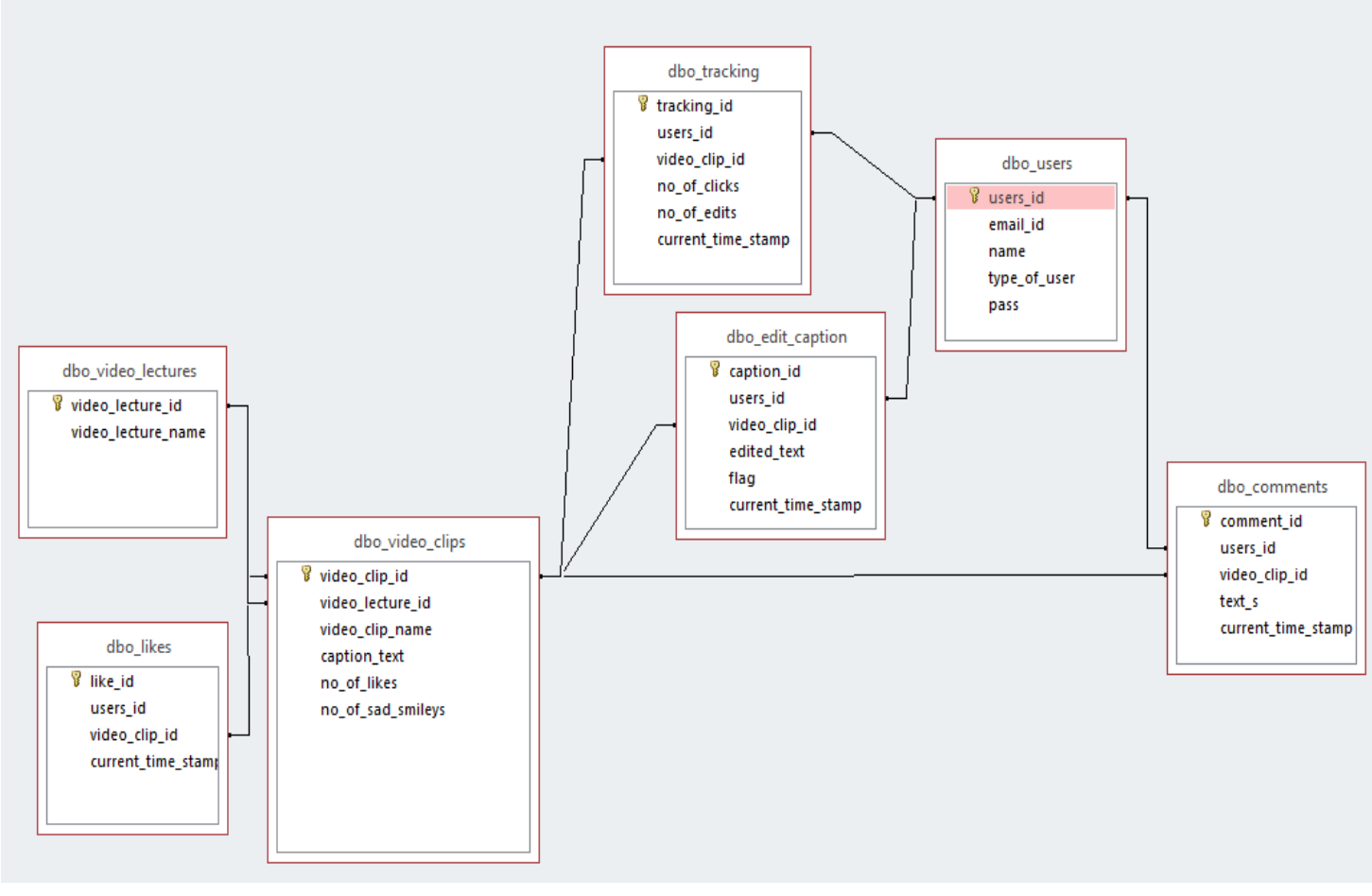
	name	video_lecture_name
1	Sachin Tendulkar	Introduction to Management
2	Harry Potter	DataBase Management
3	Rahul Dravid	DataBase Management
4	Harry Potter	DataBase Management
5	Sachin Tendulkar	Applied Data Science
6	Pratyush Kulwal	DataBase Management
7	Benjamin Franklin	DataBase Management
8	Isaac Newton	Internal Auditing
9	Pankaj Bathija	Applied Data Science
10	Christiano Ronaldo	Introduction to Management

Query executed successfully.

The technical staff at Syracuse University must have the administrator rights to access all the databases; for all backup and restore operations

RELATIONSHIP DIAGRAM:

The Relationship Diagram is as under:

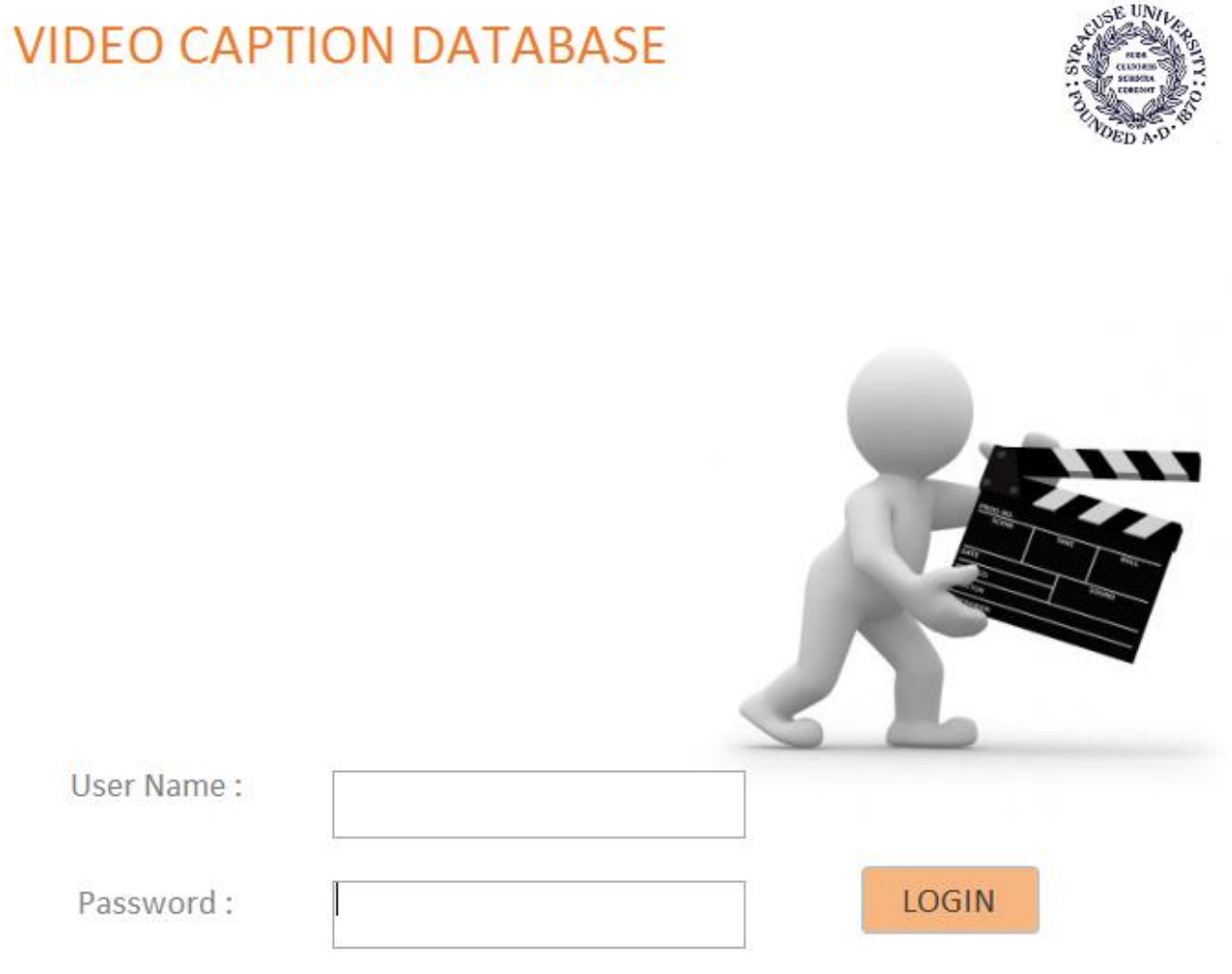


FORMS:

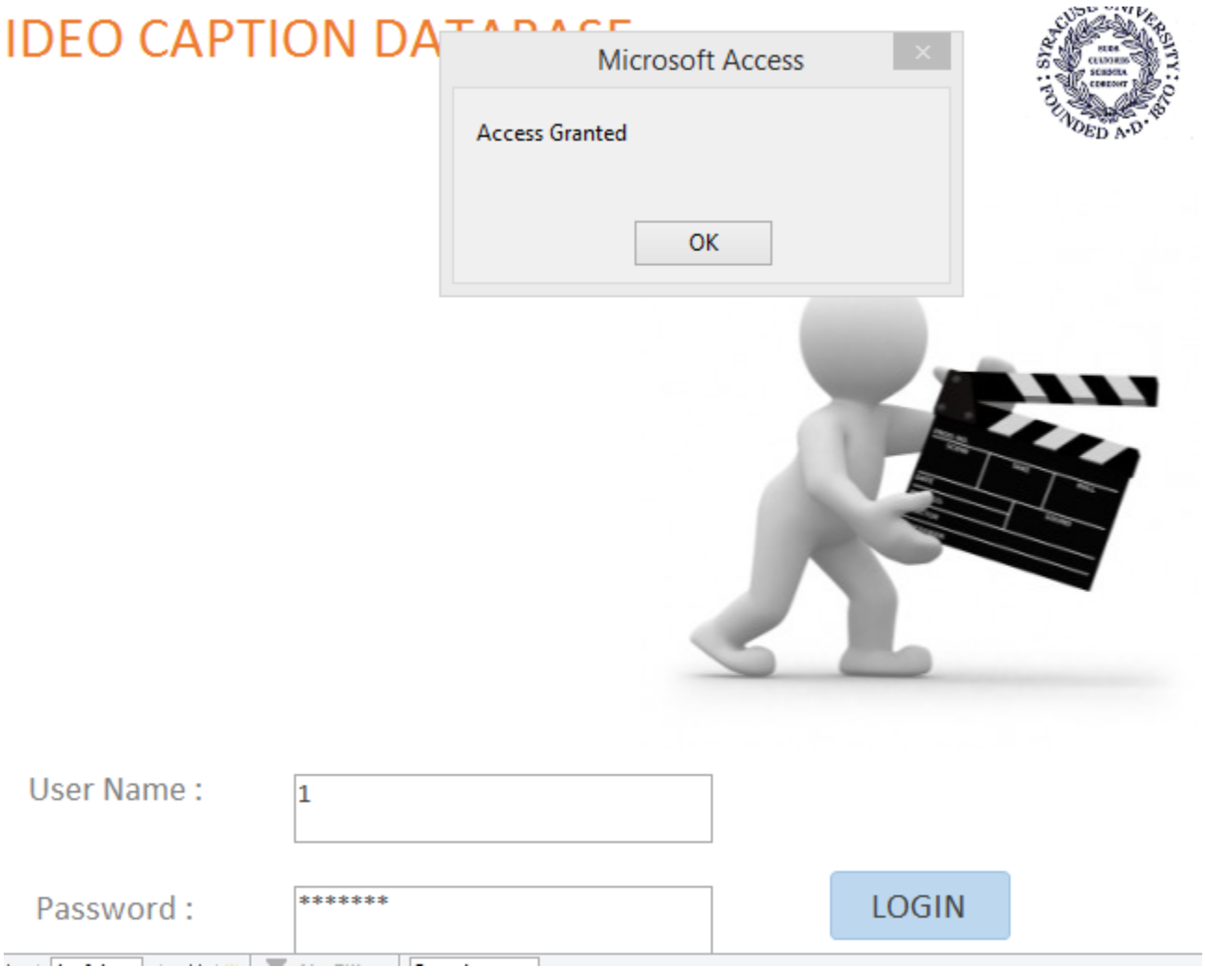
The Video Caption Database has two type of users:

1. The Administrator user: They have the admin rights to the database and can read/write to the Database.
2. The Student User: They have limited access to the database.

This is the login form, where the user will be prompted to enter his user_id and password.



On Entering correct username and password, access will be granted to the user and depending on the type of user different home screens will appear.



Here, either an administrator home page will appear or a student page will appear.

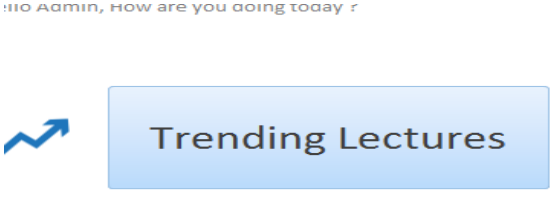
Administrator Page:

Once logged in, an administrator can see the current trending lectures, recently liked videos, existing users, approve the pending approvals, track users and view reports.

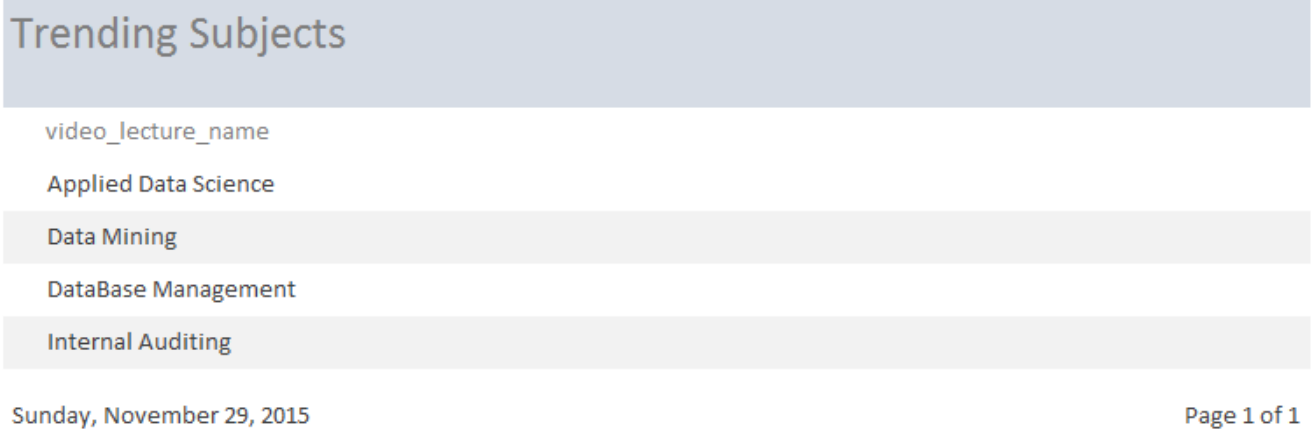
Apart from above mentioned features, administrator will also receive notifications when an edit in the caption is made. Also, the admin can search an activity of a particular user.

STEP: Click on Trending Lectures

When we click on trending lectures, a report will be generated for the current topics of interest by students which is determined by most likes and most comments on a video.



Report generated:



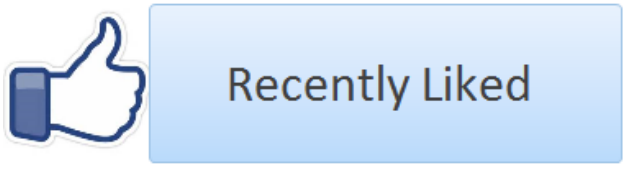
Trending Subjects

video_lecture_name
Applied Data Science
Data Mining
DataBase Management
Internal Auditing

Sunday, November 29, 2015 Page 1 of 1

STEP: Click on Recently Liked:

When a user clicks at Recently Liked button, a report is generated which displays the recently liked videos by the users of the database.



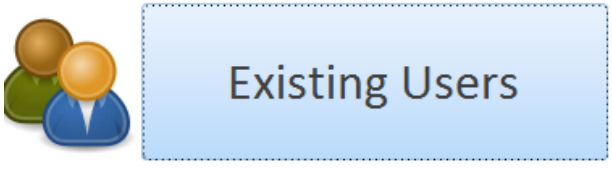
Report Generated:

Recently_liked

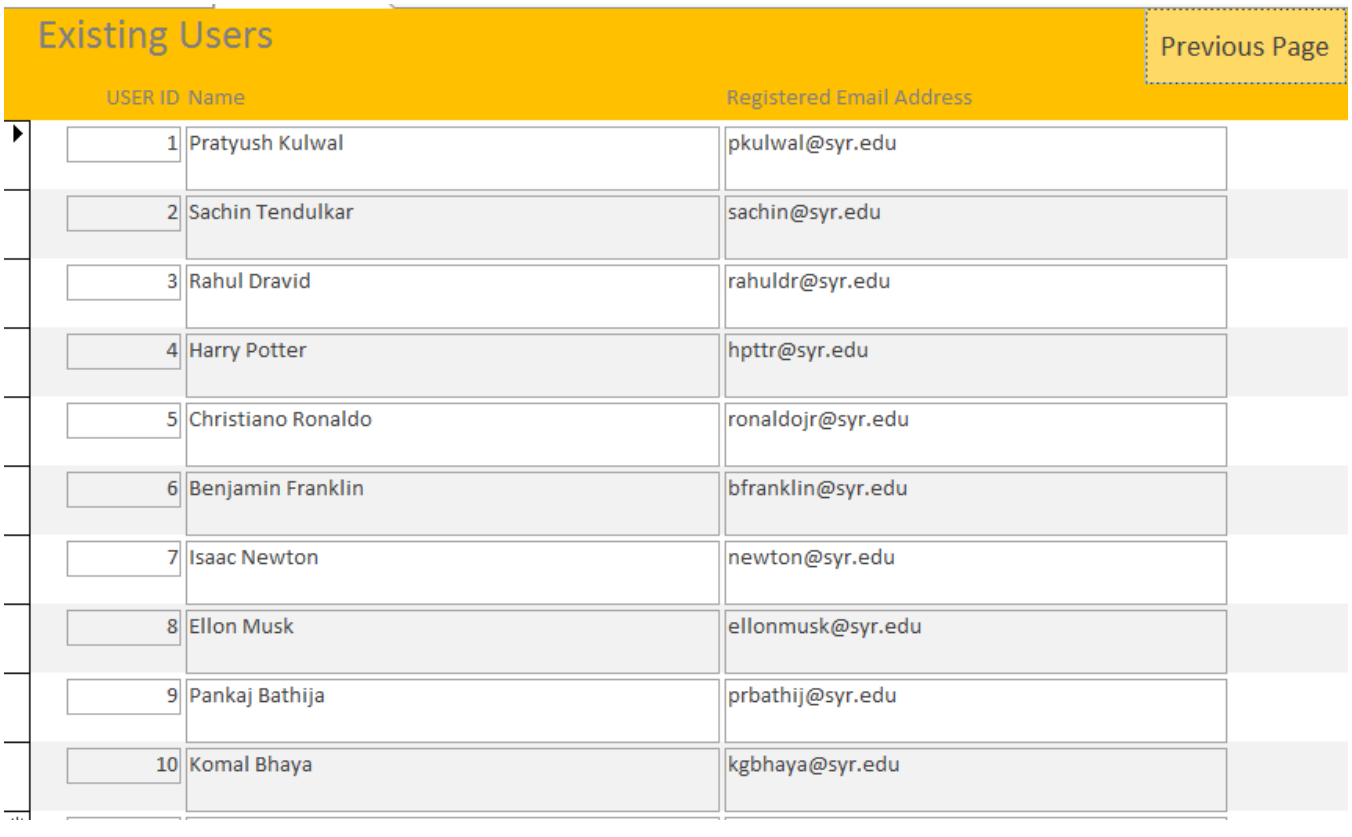
video_clip_name
Regression
Processes
ER Diagrams
Regression
Data Modelling

STEP: Click on Existing Users:

When a user clicks at Existing Users, a form is generated which displays all the users of the database system.



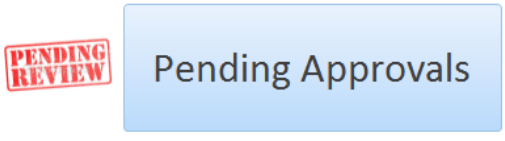
Form Generated:



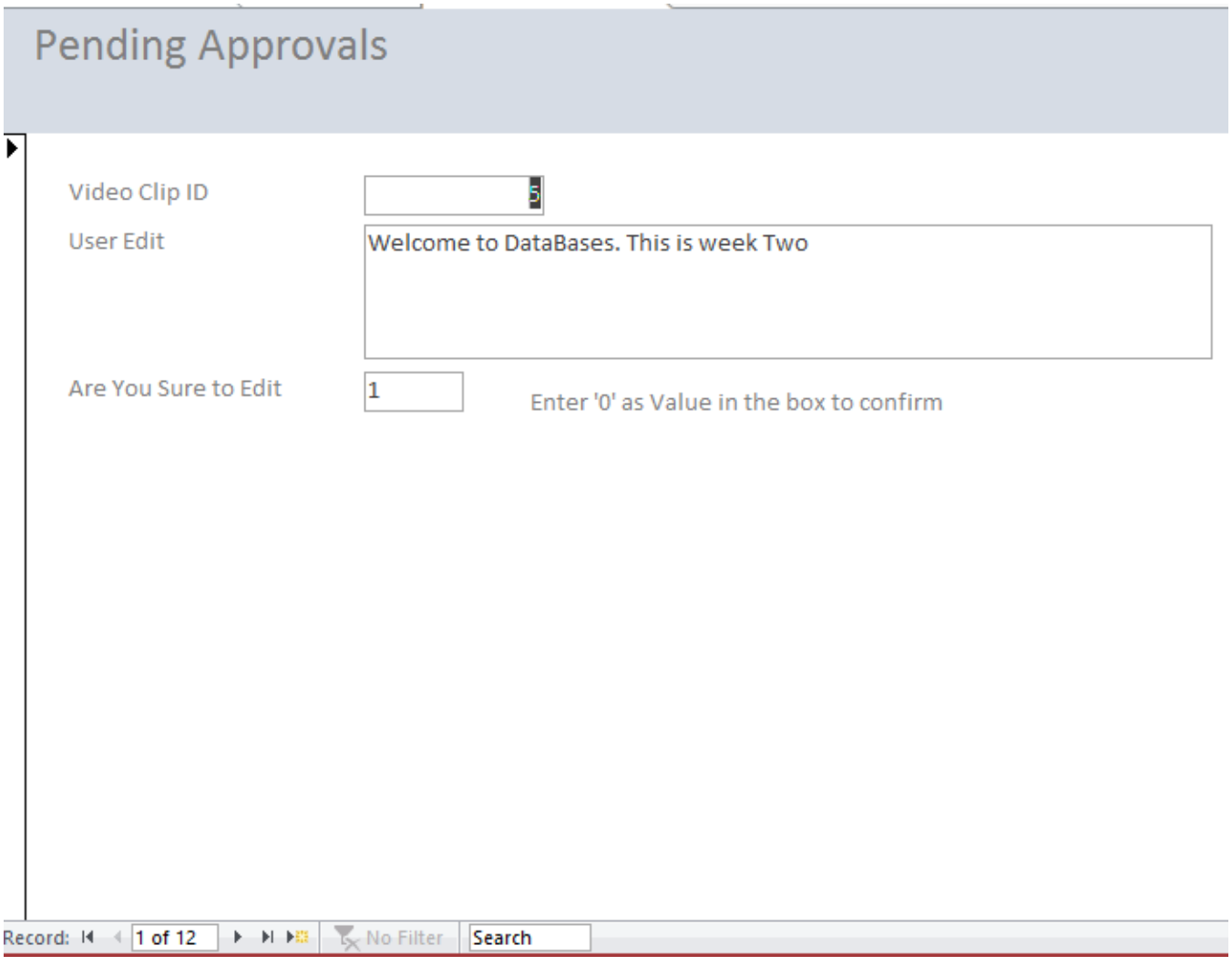
USER ID	Name	Registered Email Address
1	Pratyush Kulwal	pkulwal@syr.edu
2	Sachin Tendulkar	sachin@syr.edu
3	Rahul Dravid	rahuldr@syr.edu
4	Harry Potter	hpttr@syr.edu
5	Christiano Ronaldo	ronaldojr@syr.edu
6	Benjamin Franklin	bfranklin@syr.edu
7	Isaac Newton	newton@syr.edu
8	Ellon Musk	ellonmusk@syr.edu
9	Pankaj Bathija	prbathij@syr.edu
10	Komal Bhaya	kgbhaya@syr.edu

STEP: Click on Pending Approvals

When we click on pending approvals, a form will be generated for the administrator where he/she can approve the caption edits.

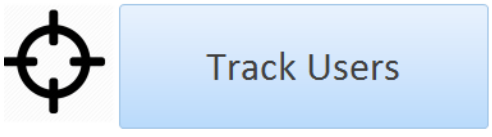


Form Generated:



STEP: Click on Track Users

When we click on track users, a query will be generated for the administrator where he/she can the activity of a user.



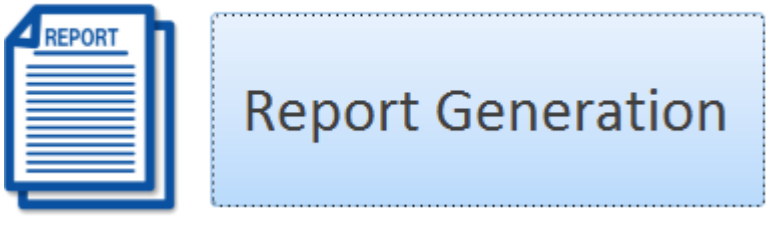
Query Generated:

Admin Home Page | Existing Users | Trending Subjects | Tracking

name	video_clip_name	no_of_clicks	no_of_edits
Sachin Tendulkar	Business Requirement Do	42	1
Harry Potter	Relationships	12	0
Rahul Dravid	Multiple Diagrams	20	1
Harry Potter	ER Diagrams	22	1
Sachin Tendulkar	Data Modelling	2	0
Pratyush Kulwal	ER Diagrams	22	0
Benjamin Franklin	Multiple Diagrams	22	0
Isaac Newton	Predictive Modelling	21	0
Pankaj Bathija	Business Models	29	0
Christiano Ronaldo	Processes	11	0

STEP: Click on Report Generation

When we click on Report Generation, a form will be generated for the administrator where he/she can view some important reports.



Form Generated:

Existing Users

Video Clip

We have also introduced features such as notifications and search a particular activity of a user.

STEP: Click on Notifications Icon

Query Generated:

This will give a message list, which could be sent as an email to the administrator.

notification_	message_text	message_time
1	There is a pending Approval waiting for you	11/20/2015 9:32:59 AM
2	There is a pending Approval waiting for you	11/27/2015 6:09:15 PM
3	There is a pending Approval waiting for you	11/27/2015 6:11:11 PM
4	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
5	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
6	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
7	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
8	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
9	There is a pending Approval waiting for you	11/28/2015 2:16:25 PM
10	There is a pending Approval waiting for you	12/1/2015 1:41:34 PM

STEP: Click on Search Icon

When we click on Search icon,

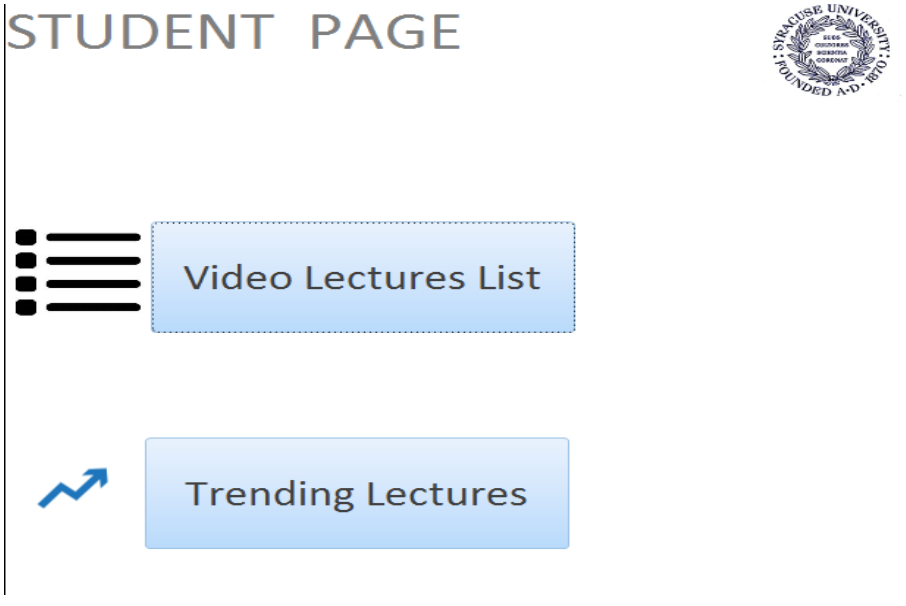
Form Generated:

Here when we select a particular user, we can find out his/her liked videos.

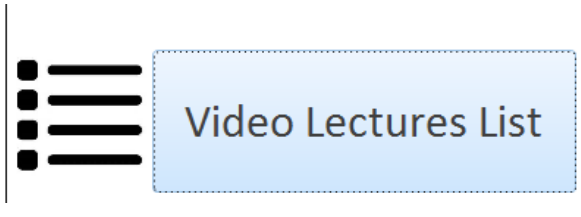
Admin Home Page | Search Likes by User | Like Search by user

video_clip_name	video_clip_id	current_time_stamp
Business Models	11	1/12/2015 11:00:00 AM
Process Flows	12	1/12/2015 1:00:00 AM
Regression	9	12/12/2015 1:00:00 PM
Processes	2	12/12/2015 12:00:00 PM
ER Diagrams	4	12/12/2015 10:00:00 AM
Regression	9	12/12/2015 9:00:00 AM

Student Page:



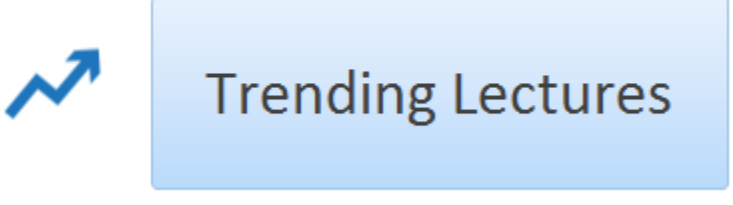
STEP: Click on Video Lectures List Button



Report Generated:

video_clip_i	video_lectui	video_clip_name
1	1	Information Manageme
2	1	Processes
3	1	Business Requirement I
4	2	ER Diagrams
5	2	Multiple Diagrams
6	2	Relationships
7	2	SQL
8	3	Data Architechture
9	3	Regression
10	3	Data Modelling
11	3	Business Models
12	3	Process Flows
13	4	BRD
14	4	User Case Study
15	4	Data flow diagram
16	5	Data Visualization
17	5	User Case Study
18	6	Predictive Modelling

STEP: Click on Trending Lectures Button



Report Generated:

video_lecture_name
Applied Data Science
Data Mining
DataBase Management
Internal Auditing

Trigger:

We implemented a trigger to notify the pending approval to the administrator

- **Logic** : Whenever a new entry is added to the edit_caption table a notification is sent to notifications_table (An external Table) from where mail can be sent to the administrator

Trigger Code:

```
CREATE TRIGGER notify_admin
ON edit_caption
FOR INSERT, UPDATE, DELETE
AS
IF @@ROWCOUNT >= 1
BEGIN
Insert Into notifications(message_text,message_time) values('There is a pending Approval waiting
for you', getdate())
END;
```

Before running the trigger

```
select * from notifications;
```

00 %

Results | Messages

	notification_id	message_text	message_time
1	1	There is a pending Approval waiting for you	2015-11-20 09:32:58.837
2	2	There is a pending Approval waiting for you	2015-11-27 18:09:15.163
3	3	There is a pending Approval waiting for you	2015-11-27 18:11:10.720
4	4	There is a pending Approval waiting for you	2015-11-28 14:16:25.073
5	5	There is a pending Approval waiting for you	2015-11-28 14:16:25.073
6	6	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
7	7	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
8	8	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
9	9	There is a pending Approval waiting for you	2015-11-28 14:16:25.077

During the execution of trigger:

```
INSERT INTO edit_caption(caption_id,users_id,video_clip_id,edited_text,flag,current_time_stamp) VALUES(112,3,5,'Welcome to DataBases. This is week Tw
```

Messages

```
(1 row(s) affected)

(1 row(s) affected)
```

After the update:

```
select * from notifications;
```

Results | Messages

	notification_id	message_text	message_time
1	1	There is a pending Approval waiting for you	2015-11-20 09:32:58.837
2	2	There is a pending Approval waiting for you	2015-11-27 18:09:15.163
3	3	There is a pending Approval waiting for you	2015-11-27 18:11:10.720
4	4	There is a pending Approval waiting for you	2015-11-28 14:16:25.073
5	5	There is a pending Approval waiting for you	2015-11-28 14:16:25.073
6	6	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
7	7	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
8	8	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
9	9	There is a pending Approval waiting for you	2015-11-28 14:16:25.077
10	10	There is a pending Approval waiting for you	2015-12-01 13:41:34.343