



## 18. Appendix E: Database Schema

```

-----
-- Table `perm_trace`.`user`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`user` (
  `id` INT NOT NULL AUTO_INCREMENT ,
  `first_name` VARCHAR(100) NOT NULL ,
  `last_name` VARCHAR(100) NOT NULL ,
  `email` VARCHAR(100) NOT NULL ,
  `password_hash` BINARY(32) NOT NULL ,
  `personal_title` VARCHAR(10) NULL ,
  `phone_number` VARCHAR(20) NULL ,
  `department` VARCHAR(100) NULL ,
  `position` VARCHAR(100) NULL ,
  `city` VARCHAR(100) NOT NULL ,
  `country` VARCHAR(100) NOT NULL ,
  `zip_code` CHAR(5) NULL ,
  `state_territory_province` VARCHAR(100) NULL ,
  `street_address` VARCHAR(400) NULL ,
  `is_conference_chair` TINYINT(1) NOT NULL ,
  `is_registered` TINYINT(1) NOT NULL ,
  `is_accepted_reviewer` TINYINT(1) NOT NULL ,
  `reviewer_credentials` TEXT NULL ,
  `programming_contest_team_name` VARCHAR(30) NULL ,
  `school_name` VARCHAR(80) NOT NULL ,
  PRIMARY KEY (`id`, `school_name`),
  INDEX `fk_user_programming_contest_team1_idx`
  (`programming_contest_team_name` ASC) ,
  UNIQUE INDEX `email_UNIQUE` (`email` ASC) ,
  INDEX `fk_user_school1_idx` (`school_name` ASC) ,
  CONSTRAINT `fk_user_programming_contest_team1`
    FOREIGN KEY (`programming_contest_team_name`)
    REFERENCES `perm_trace`.`programming_contest_team` (`name` )
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_user_school1`
    FOREIGN KEY (`school_name`)
    REFERENCES `perm_trace`.`school` (`name` )
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



```

-----
-- Table `perm_trace`.`scholarly_work_type`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`scholarly_work_type` (
  `name` VARCHAR(50) NOT NULL ,
  `chair_id` INT NOT NULL ,
  `submission_deadline` DATE NULL ,
  PRIMARY KEY (`name`) ,
  INDEX `fk_scholarly_work_type_user1_idx` (`chair_id` ASC) ,
  CONSTRAINT `fk_scholarly_work_type_user1`
    FOREIGN KEY (`chair_id`)
      REFERENCES `perm_trace`.`user` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

-----
-- Table `perm_trace`.`scholarly_work`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`scholarly_work` (
  `id` INT NOT NULL ,
  `submiter_id` INT NOT NULL ,
  `type_name` VARCHAR(50) NOT NULL ,
  `submission_date` DATE NOT NULL ,
  `file_name` CHAR(64) NOT NULL ,
  `accepted` TINYINT(1) NOT NULL ,
  PRIMARY KEY (`id`) ,
  INDEX `fk_scholarly_works_users_idx` (`submiter_id` ASC) ,
  INDEX `fk_scholarly_work_scholarly_work_type1_idx` (`type_name` ASC)
,
  CONSTRAINT `fk_scholarly_works_users`
    FOREIGN KEY (`submiter_id`)
      REFERENCES `perm_trace`.`user` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_scholarly_work_scholarly_work_type1`
    FOREIGN KEY (`type_name`)
      REFERENCES `perm_trace`.`scholarly_work_type` (`name`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



```

-----
-- Table `perm_trace`.`review`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`review` (
  `scholarly_work_id` INT NOT NULL ,
  `reviewer_id` INT NOT NULL ,
  `comments` TEXT NULL ,
  `date` DATE NULL ,
  `grade` INT NULL ,
  PRIMARY KEY (`scholarly_work_id`, `reviewer_id`) ,
  INDEX `fk_scholarly_work_has_user_user1_idx` (`reviewer_id` ASC) ,
  INDEX `fk_scholarly_work_has_user_scholarly_work1_idx`
(`scholarly_work_id` ASC) ,
  CONSTRAINT `fk_scholarly_work_has_user_scholarly_work1`
  FOREIGN KEY (`scholarly_work_id`)
  REFERENCES `perm_trace`.`scholarly_work` (`id`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION,
  CONSTRAINT `fk_scholarly_work_has_user_user1`
  FOREIGN KEY (`reviewer_id`)
  REFERENCES `perm_trace`.`user` (`id`)
  ON DELETE NO ACTION
  ON UPDATE NO ACTION)
ENGINE = InnoDB;

```

```

-----
-- Table `perm_trace`.`topic`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`topic` (
  `name` VARCHAR(30) NOT NULL ,
  `description` VARCHAR(200) NOT NULL ,
  PRIMARY KEY (`name`) )
ENGINE = InnoDB;

```

```

-----
-- Table `perm_trace`.`meal`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`meal` (
  `name` VARCHAR(30) NOT NULL ,
  `description` VARCHAR(300) NOT NULL ,
  `price` DECIMAL(10,2) NOT NULL ,
  PRIMARY KEY (`name`) )
ENGINE = InnoDB;

```



```

-----
-- Table `perm_trace`.`reviewer_has_interest`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`reviewer_has_interest` (
  `reviewer_id` INT NOT NULL ,
  `topic_name` VARCHAR(30) NOT NULL ,
  PRIMARY KEY (`reviewer_id`, `topic_name`) ,
  INDEX `fk_user_has_topic_topic1_idx` (`topic_name` ASC) ,
  INDEX `fk_user_has_topic_user1_idx` (`reviewer_id` ASC) ,
  CONSTRAINT `fk_user_has_topic_user1`
    FOREIGN KEY (`reviewer_id`)
      REFERENCES `perm_trace`.`user` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_user_has_topic_topic1`
    FOREIGN KEY (`topic_name`)
      REFERENCES `perm_trace`.`topic` (`name`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

-----
-- Table `perm_trace`.`scholarly_work_has_topic`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`scholarly_work_has_topic` (
  `scholarly_work_id` INT NOT NULL ,
  `topic_name` VARCHAR(30) NOT NULL ,
  PRIMARY KEY (`scholarly_work_id`, `topic_name`) ,
  INDEX `fk_scholarly_work_has_topic_topic1_idx` (`topic_name` ASC) ,
  INDEX `fk_scholarly_work_has_topic_scholarly_work1_idx`
(`scholarly_work_id` ASC) ,
  CONSTRAINT `fk_scholarly_work_has_topic_scholarly_work1`
    FOREIGN KEY (`scholarly_work_id`)
      REFERENCES `perm_trace`.`scholarly_work` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_scholarly_work_has_topic_topic1`
    FOREIGN KEY (`topic_name`)
      REFERENCES `perm_trace`.`topic` (`name`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



```

-----
-- Table `perm_trace`.`meal_ticket`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`meal_ticket` (
  `user_id` INT NOT NULL ,
  `meal_name` VARCHAR(30) NOT NULL ,
  PRIMARY KEY (`user_id`, `meal_name`) ,
  INDEX `fk_user_has_meal_meal1_idx` (`meal_name` ASC) ,
  INDEX `fk_user_has_meal_user1_idx` (`user_id` ASC) ,
  CONSTRAINT `fk_user_has_meal_user1`
    FOREIGN KEY (`user_id`)
      REFERENCES `perm_trace`.`user` (`id` )
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `fk_user_has_meal_meal1`
    FOREIGN KEY (`meal_name`)
      REFERENCES `perm_trace`.`meal` (`name` )
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;

```

```

-----
-- Table `perm_trace`.`event`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`event` (
  `name` VARCHAR(50) NOT NULL ,
  `description` VARCHAR(400) NULL ,
  `start_time` DATETIME NOT NULL ,
  `end_time` DATETIME NOT NULL ,
  `location` VARCHAR(50) NOT NULL ,
  PRIMARY KEY (`name`) ,
  INDEX `time_idx` (`start_time` ASC) )
ENGINE = InnoDB;

```

```

-----
-- Table `perm_trace`.`school`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`school` (
  `name` VARCHAR(80) NOT NULL ,
  PRIMARY KEY (`name`) )
ENGINE = InnoDB;

```



```

-----
-- Table `perm_trace`.`user_attends`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`user_attends` (
  `user_id` INT NOT NULL ,
  `event_name` VARCHAR(50) NOT NULL ,
  PRIMARY KEY (`user_id`, `event_name`) ,
  INDEX `fk_user_has_event_event1_idx` (`event_name` ASC) ,
  INDEX `fk_user_has_event_user1_idx` (`user_id` ASC) ,
  CONSTRAINT `fk_user_has_event_user1`
    FOREIGN KEY (`user_id`)
      REFERENCES `perm_trace`.`user` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_user_has_event_event1`
    FOREIGN KEY (`event_name`)
      REFERENCES `perm_trace`.`event` (`name`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

-----
-- Table `perm_trace`.`programming_contest_team`
-----
CREATE TABLE IF NOT EXISTS `perm_trace`.`programming_contest_team` (
  `name` VARCHAR(30) NOT NULL ,
  `school` VARCHAR(100) NOT NULL ,
  `advisor_id` INT NOT NULL ,
  PRIMARY KEY (`name`) ,
  INDEX `fk_programming_contest_team_user1_idx` (`advisor_id` ASC) ,
  CONSTRAINT `fk_programming_contest_team_user1`
    FOREIGN KEY (`advisor_id`)
      REFERENCES `perm_trace`.`user` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;

```



## 19. Appendix F: Prototype Screens

The first page a user will see before logging in or creating an account:

Username   
 Password

TRACE Technologies  
Prototype

New User? [Create Account](#)

Menu

Home

General Information

Schedule

CCSCNE 2013 is the 18th Annual Conference of the Northeast region of the Consortium for Computing Sciences in Colleges (CCSC). The conference is held in cooperation with the ACM SIGCSE and Upsilon Pi Epsilon Honors Society and is hosted by Siena College in Loudonville, NY.

CCSCNE is the northeastern region of the national Consortium for Computing Sciences in Colleges (CCSC). Started in 1996, CCSCNE is one of the largest regions of CCSC.

CCSCNE brings together faculty, staff, and students from academic institutions throughout the Northeast for exchange of ideas and information concerning undergraduate computing curricula. This conference provides a regional forum for the exchange of information and ideas pertaining to the concerns of computing and computing curricula in a smaller academic environment.

CCSCNE holds a refereed conference every Spring, also called CCSCNE. This conference draws participants from all over the northeast and eastern United States. The proceedings of the conference are published as an issue of the Journal of Computing Sciences in Colleges.

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2013
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8	24	25	26	27	28	1	2
9	3	4	5	6	7	8	9
10	10	11	12	13	14	15	16
11	17	18	19	20	21	22	23
12	24	25	26	27	28	29	30
13	31	1	2	3	4	5	6

TRACE Technologies



The page a user will see while creating an account:

**TRACE Technologies**  
Prototype

**Register Account**

University / Company:	<input type="text"/>
Department:	<input type="text"/>
Title:	<input style="width: 80%;" type="text" value="Mrs."/>
Full Academic / Job Title:	<input type="text"/>
First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Address Line 1:	<input type="text"/>
Address Line 2:	<input type="text"/>
ZIP Code:	<input type="text"/>
City:	<input type="text"/>
State:	<input style="width: 80%;" type="text" value="Select State"/>
Country:	<input style="width: 80%;" type="text" value="Select Country"/>
Phone:	<input type="text"/>
Email:	<input type="text"/>
Homepage:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="text"/>
Re-type Password:	<input type="text"/>





The home page most normal users will see after logging into the system:

## TRACE Technologies Prototype

Welcome, **testuser**

**Menu**

Home

Submit

Review

Conference Registration

Profile

General Information

Schedule

You **are** registered for the conference

Meal selection: **Chicken**

Workshop selection: **How to teach Software Engineering**

You **have not** submitted any works

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TRACE Technologies



The page a submitter will see before attempting to submit a Scholarly Work:

## TRACE Technologies Prototype

Welcome, **testuser**

**Menu**

Home

**Submit**

Review

Conference Registration

Submit a workView my submissions

Submission Type:

Submission Title:

Regular submission:  
 No file chosen

Anonymous submission:  
 No file chosen

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TRACE Technologies



The page a Submitter may go to in order to see the status of different submissions:

## TRACE Technologies Prototype

Welcome, **testuser**

**Menu**

Home

**Submit**

Review

Conference Registration

Submit a work

View my submissions

Title	Status
Object Oriented Programming	Reviewed
CS Education	Accepted
Parallel Computing	Rejected
Software Engineering	Under Review

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TRACE Technologies



The page a reviewer will visit to view works assigned for review and download them:

## TRACE Technologies Prototype

Welcome, **testuser**

**Menu**

Home

Submit

**Review**

Conference Registration

**Assigned Works**

Title		
Introductory Curriculum	<input type="button" value="Download"/>	<input type="button" value="Submit Review"/>
Object Oriented Programming	<input type="button" value="Download"/>	<input type="button" value="Submit Review"/>
Graph Theory	<input type="button" value="Download"/>	<input type="button" value="Submit Review"/>
Software Engineering	<input type="button" value="Download"/>	<input type="button" value="Submit Review"/>

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TRACE Technologies



The page where a Submission Chair may view submissions, view reviews, and accept or reject submissions:

## TRACE Technologies Prototype

Welcome, **testuser**

**Menu**

Home

Submit

Review

**Submission Chair**

Conference Registration

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11	17	18	19	20	21	22	23
12	24	25	26	27	28	29	30
13	31	1	2	3	4	5	6

Clear

**Submissions**
Reviewer Applications

Sort By Date Submitted Ascending  Descending

	Title	Author	Date	Grade
<input checked="" type="radio"/>	Software Engineering	Lederman	02/01/2013	1
<input type="radio"/>	CS Education	Joe	02/11/2013	0.5
<input type="radio"/>	Ticket to Ride	Lim	02/12/2013	1.2

Title: Software Engineering  
 Author: Lederman  
 Topics: Software Engineering, Education

**Submission PDF**

Reviewers: **John Doe**

Accept
Reject

TRACE Technologies



The page where a Submission Chair may accept Reviewer applications:

## TRACE Technologies Prototype

Welcome, **testuser**

Menu

Home

Submit

Review

Submission Chair

Conference Registration

Submissions

Reviewer Applications

**Name**

Jim Matthews

Darren Lim

Tim Lederman

TRACE Technologies

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