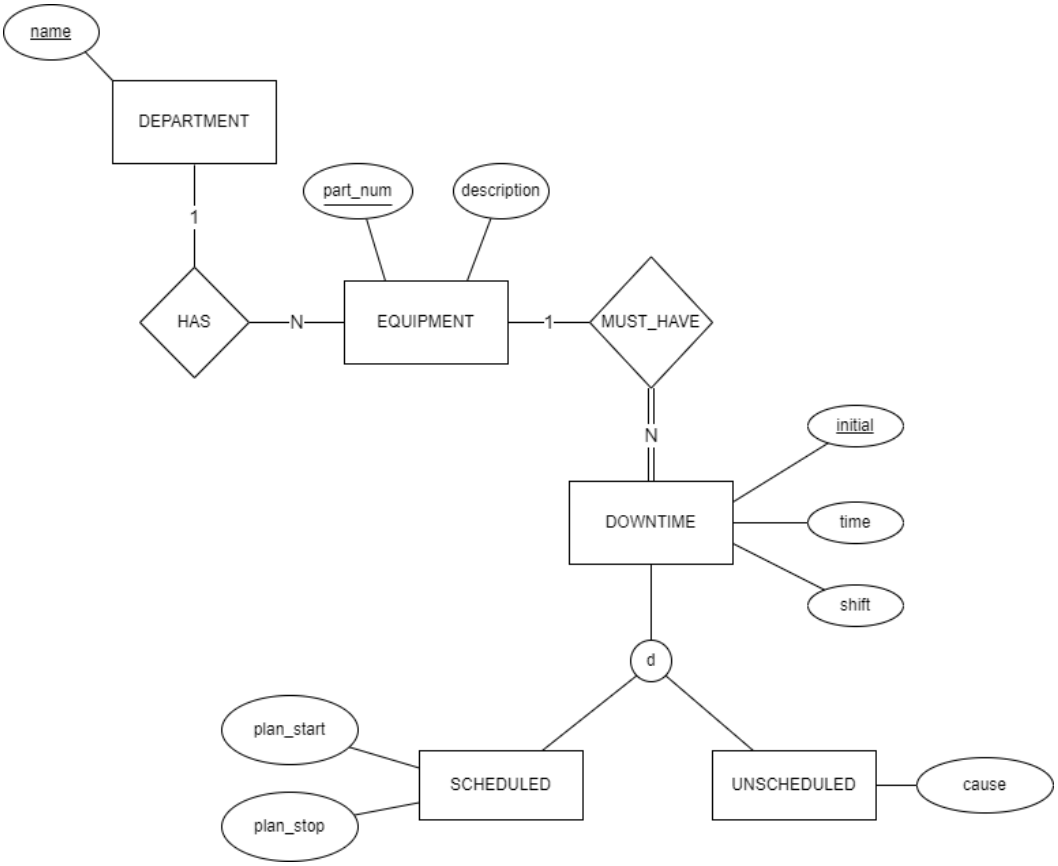
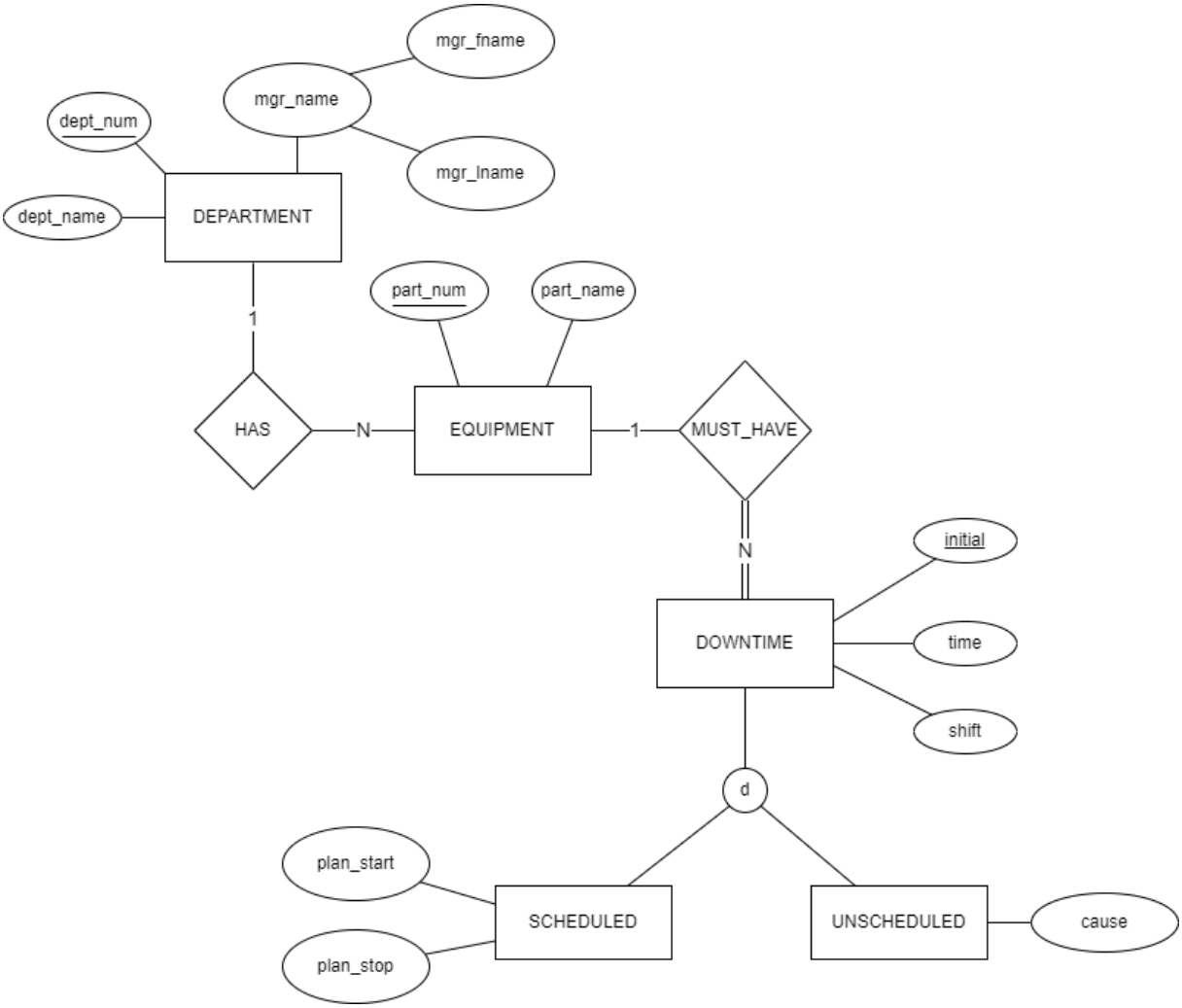
Group: Project 12
Member: Leo Puso

EER Diagram

(Original)



(Updated)



Relational Diagram

DOWNTIME

initial	time	shift	downtime_type	plan_start	plan_stop	cause	equipment_num

EQUIPMENT

part_num	part_name	dept_num

DEPARTMENT

dept_name	dept_num	mgr_fname	mgr_lname

SQL Statements:

```
/**** MySQL 5.7.38 ****/

create table DEPARTMENT
(
dept_num int not null,
dept_name varchar(10),
mgr_fname varchar(30),
mgr_lname varchar(30),
primary key(dept_num)
);

create table EQUIPMENT
(
part_num int not null,
part_name varchar(30),
dept_num int,
primary key(part_num),
foreign key(dept_num) references DEPARTMENT(dept_num)
);

create table DOWNTIME
(
-- technicians will each have unique three letter initials
initial char(3) not null,
-- time in minutes
time int,
-- there are three shifts: day, swing, grave
shift varchar(5),

downtime_type enum('Scheduled', 'Unscheduled'),
-- no downtime, make downtime_type null
-- if downtime_type is null make plan_start/stop and cause into null
-- if downtime_type is ‘Scheduled’ then cause is null
-- if downtime_type is “Unscheduled’ then plan_start/stop are both nulll

-- plan_start/stop format is HH:MM:SS
plan_start time,
plan_stop time,
cause varchar(30),
equipment_num int,
primary key(initial),
foreign key(equipment_num) references EQUIPMENT(part_num)
);
```

```
/**** Named Query ****/

create view SCHEDULED as
select initial, time, shift, plan_start, plan_stop
from DOWNTIME
where downtime_type = 'Scheduled';

/**** Materialized View ****/

create table UNSCHEDULED
(
Select initial, time, shift, cause
from DOWNTIME
where downtime_type='Unscheduled'
);

/********* Triggers *********/

--------- insert ---------

delimiter $$
create trigger after_insert_unscheduled
after insert on DOWNTIME
for each row
begin
        if new.downtime_type='Unscheduled'
        and new.plan_start is not null
        then
        signal sqlstate '45000'
        set message_text ='Invalid entry.';
        elseif new.downtime_type='Unscheduled'
        and new.plan_stop is not null
        then
        signal sqlstate '45000'
        set message_text ='Invalid entry.';
        end if;

        if new.downtime_type='Unscheduled'
        and new.plan_start is null
        and new.plan_stop is null
        then
        insert into UNSCHEDULED
        values(new.initial, new.time, new.shift, new.cause);
        end if;
```

```
end $$
delimiter ;

--------- update ---------

delimiter $$
create trigger after_update_unscheduled
after update on DOWNTIME
for each row
begin
        if new.downtime_type='Unscheduled'
        and new.plan_start is not null
        then
        signal sqlstate '45000'
        set message_text =
        'Cannot update: plan_start has to be null for Unscheduled';

        elseif new.downtime_type='Unscheduled'
        and new.plan_stop is not null
        then
        signal sqlstate '45000'
        set message_text =
        'Cannot update: plan_stop has to be null for Unscheduled';

        elseif new.downtime_type='Unscheduled'
        then
        delete from UNSCHEDULED where initial=old.initial;
        insert into UNSCHEDULED
        values(new.initial, new.time, new.shift, new.cause);
        end if;
end $$
delimiter ;

--------- delete ---------

delimiter $$
create trigger after_delete_unscheduled
after delete on DOWNTIME
for each row
begin
        if old.downtime_type='Unscheduled'
        then
        delete from UNSCHEDULED
        where initial=old.initial;
```

```
        end if;
end $$
delimiter ;

/********** Function **********/
-- get total down time for each shift

delimiter &&
create function shift_total_downtime(shift varchar(5))
returns int
begin
declare num int default 0;

if shift='day' then
select sum(time) into num
from DOWNTIME
where DOWNTIME.shift='Day';

elseif shift='swing' then
select sum(time) into num
from DOWNTIME
where DOWNTIME.shift='Swing';

elseif shift='Grave' then
select sum(time) into num
from DOWNTIME
where DOWNTIME.shift='Grave';
end if;

return num;

end &&
delimiter ;
```

URL/Source Code:

https://ecs-pw-proj-web.ecs.csus.edu/~lpuso/front.php

```
/*************** front.php **********************/
<html>
<body>
Type in your unscheduled downtime:<br><br>
<form action="end.php" method="get">
Initial (3 letters): <input type="text" name="initial"><br>
Time(minutes): <input type="text" name="time"><br>
Shift: <input type="text" name="shift"><br>
Cause: <input type="text" name="cause"><br>
<input type="submit">
</form>

</body>
</html>

/*************** end.php **********************/

<html>
<body>

Here is the UNSCHEDULED table <br><br>

</body>
</html>


<?php
$servername = "ecs-pd-proj-db.ecs.csus.edu";
$username = "CSC174143";
$password = "Csc134_998570202";
$dbname = "CSC174143";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}

$sql = "SELECT * FROM UNSCHEDULED";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
  // output data of each row
```

```
  while($row = $result->fetch_assoc()) {
    echo "initial: " . $row["initial"]. " - time: " . $row["time"]. " - shift: " . $row["shift"] . " - cause: " .
$row["cause"] . "<br>";
  }
} else {
  echo "0 results";
}
$conn->close();
?>
```