1. Outline

My database is going to track manufacturing companies and their current quality certifications on record. This is a big part of my current job as a quality engineer. My company has contracts with dozens of other companies to manufacture parts for us. As part of these contracts, the subtier companies each must have certain quality certifications on file. These certifications must be validated by a quality engineer such as myself and are generally good for one year. After one year, the certification must be updated.

We are having issues at work with suppliers either not providing us evidence of their certification updates or even not gaining the recertification in time. We are unable to accept any products produced by a company during a time period in which they were not up to date in the certifications required by the contract, so it is very important that our suppliers maintain their certifications and that my company keep track of all current certification statuses.

Main Page:
http://web.engr.oregonstate.edu/~cankayaa/CS275/Final/SuppDB.php

2. Database Outline In Words

There will be at least four entities in my database:

- Products - these are items that we want manufactured. Each product must have a product number (prod_id, auto-incremented) and purchase order (PO_num), and can have an assigned supplier number (fk_supp_id) with related engineer (fk_supp_eng_id).
- Suppliers - these are the companies that have contracts to manufacture parts. Each supplier must have its own supplier number (supp_id, auto-incremented) and a name (supp_name) and can also have a certification (fk_cert_id) with a completion date (comp_date) and a next due date (due_date). Each supplier can have one engineer assigned (fk_eng_id).
- Certifications - these are quality requirements that must be validated on an annual basis. Each certification must have its own id number (cert_id, auto-incremented), a name (cert_name), and a rev number (rev).
- Engineers - these are the people that must validate each certification at each supplier. Each engineer must have an employee id number (eng_id, auto-incremented) and a name (eng_name).

There will be at least four defined relationships in my database:

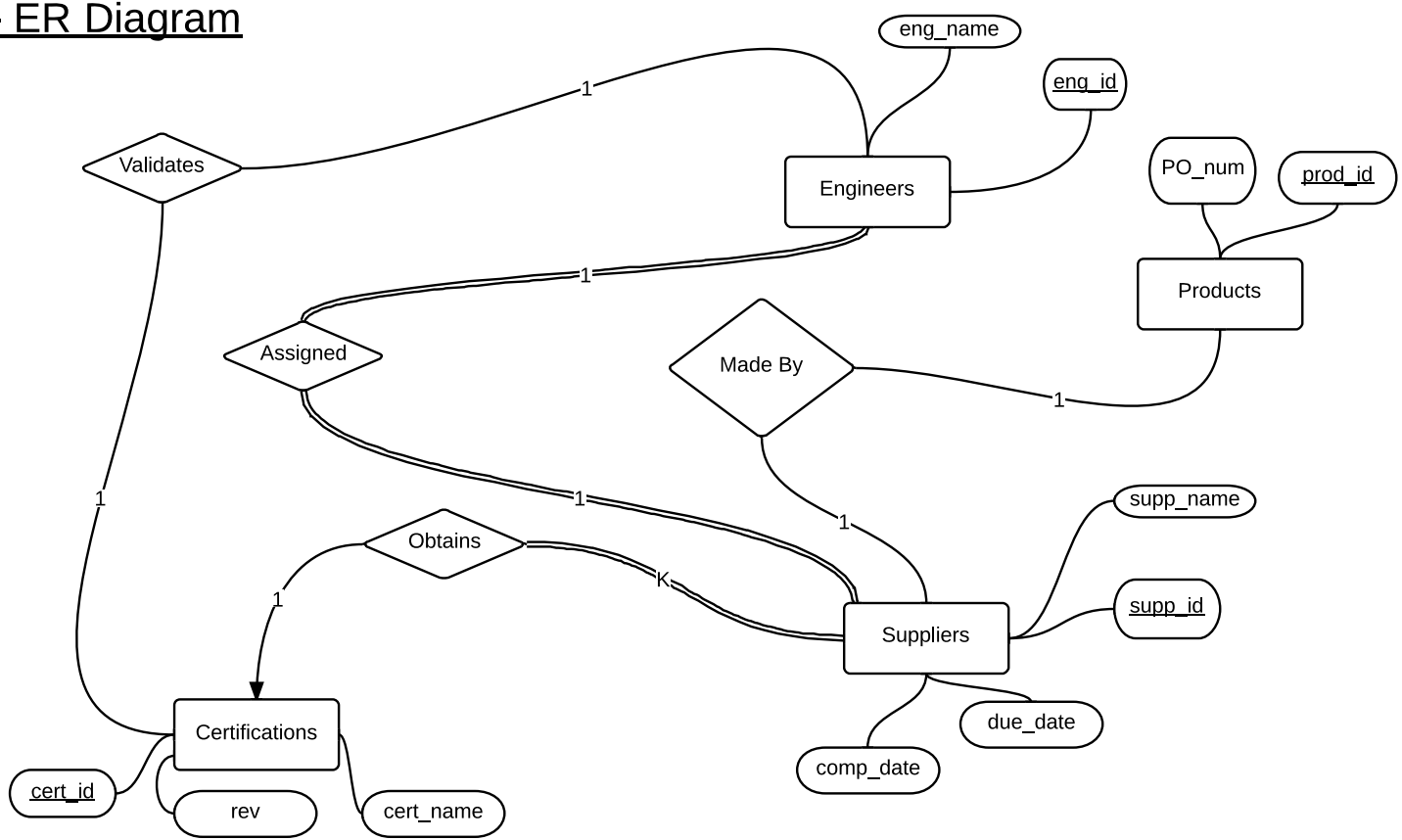
- supp_eng - There are multiple suppliers and multiple engineers. Each supplier is assigned one engineer, but an engineer can be assigned to multiple suppliers at once (many to many)

- Products are made by suppliers. Each product number is approved for manufacture by one supplier, but a supplier can be approved for several products.

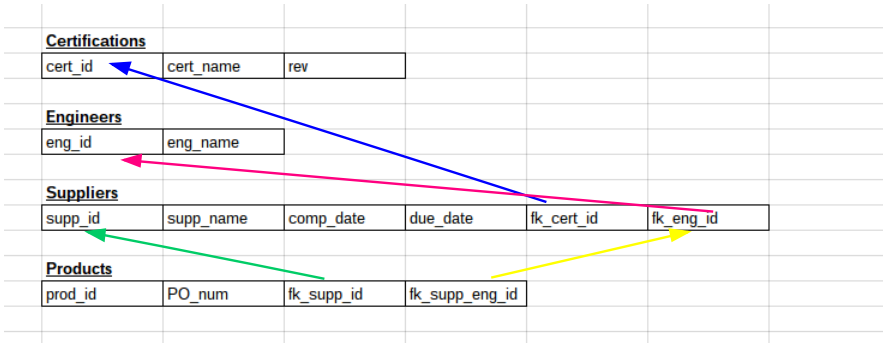
- Products are assigned an engineer that acts as the quality representative at the supplier

- Each supplier can have one certification, but each certification can be held by any number of suppliers at once

03 - ER Diagram



04 - Database Schema



#5. Table Creation Queries

```
SET foreign_key_checks = 0;
DROP TABLE IF EXISTS Certifications;
DROP TABLE IF EXISTS Engineers;
DROP TABLE IF EXISTS Suppliers;
DROP TABLE IF EXISTS Products;

CREATE TABLE `Certifications` (
  `cert_id` int(11) NOT NULL AUTO_INCREMENT,
  `cert_name` varchar(255) NOT NULL,
  `rev` varchar(255) NOT NULL,
  PRIMARY KEY (`cert_id`)
) ENGINE=InnoDB;

CREATE TABLE `Engineers` (
  `eng_id` int(11) NOT NULL AUTO_INCREMENT,
  `eng_name` varchar(255) NOT NULL,
  PRIMARY KEY (`eng_id`)
) ENGINE=InnoDB;

CREATE TABLE `Suppliers` (
  `supp_id` int(11) NOT NULL AUTO_INCREMENT,
  `supp_name` varchar(255) NOT NULL,
  `fk_cert_id` int(11),
  `comp_date` date,
  `due_date` date,
  `fk_eng_id` int(11),
  PRIMARY KEY (`supp_id`),
  FOREIGN KEY (`fk_cert_id`) REFERENCES `Certifications` (`cert_id`) ON DELETE SET
NULL,
  FOREIGN KEY (`fk_eng_id`) REFERENCES `Engineers` (`eng_id`) ON DELETE SET NULL
) ENGINE=InnoDB ;

CREATE TABLE `Products` (
 `prod_id` int(11) NOT NULL AUTO_INCREMENT,
 `PO_num` int(11) NOT NULL,
  `fk_supp_id` int(11),
  `fk_supp_eng_id` int(11),
 PRIMARY KEY (`prod_id`),
 FOREIGN KEY (`fk_supp_id`) REFERENCES `Suppliers` (`supp_id`) ON DELETE SET NULL,
 FOREIGN KEY (`fk_supp_eng_id`) REFERENCES `Suppliers` (`fk_eng_id`) ON DELETE SET
NULL
) ENGINE=InnoDB ;
```

#6 General Use Queries

```
/* Add a new certificate type to the database
/* Required input: cert_name (varchar - name of certification), rev (varchar - revision level)
/* Optional input: none

    INSERT INTO Certifications (cert_name, rev) VALUES ('[name]', '[revision]');

/* Add a new engineer to the database
/* Required input: eng_name (varchar - name of engineer)
/* Optional input: none

    INSERT INTO Engineers (eng_name) VALUES ('[name]');

/* Add a new product to the database
/* Required input: PO_num (int - purchase order number), fk_supp_id(foreign key - supp_id of
assigned supplier)
/* Optional input: fk_supp_eng_id (foreign key - fk_eng_id of the supplier assigned)

    INSERT INTO Products (PO_num, fk_supp_id, fk_supp_eng_id)
    VALUES (
        [PO number],
        (SELECT supp_id FROM Suppliers),
        (SELECT fk_eng_id FROM Suppliers WHERE supp_id=[fk_supp_id])
    );

/* Add a new supplier to the database
/* Required input: supp_name (varchar - name of supplier), fk_eng_id (foreign key - eng_id of
engineer assigned)
/* Optional input: fk_cert_id (foreign key - cert_id of certification attained), comp_date (date - cert
completion date), due_date (date - cert expiration date)

    INSERT INTO Suppliers (supp_name, fk_eng_id, fk_cert_id, comp_date, due_date)
    VALUES (
        '[name]',
        (SELECT eng_id FROM Engineers),
        (SELECT cert_id FROM Certifications),
        '[completion date in format 20140530]',
        '[due date in format 20140530]'
    );
```

```
/* Delete a certificate type from the database
/* Required input: cert_id of the certification to be deleted
/* Optional input: none

        DELETE FROM Certifications WHERE cert_id=[cert id] ;

/* Delete an engineer from the database
/* Required input: eng_id of the engineer to be deleted
/* Optional input: none

        DELETE FROM Engineers WHERE eng_id=[eng id];

/* Delete a product from the database
/* Required input: prod_id of the product to be deleted
/* Optional input: none

        DELETE FROM Products WHERE prod_id=[prod id];

/* Delete a supplier from the database
/* Required input: supp_id of the supplier to be deleted
/* Optional input: none

        DELETE FROM Suppliers WHERE supp_id=[supp id];

/* Display all certifications
        SELECT * FROM `Certifications`

/* Display all engineers
        SELECT * FROM `Engineers`

/* Display all products
        SELECT * FROM `Products`

/* Display all suppliers
        SELECT * FROM `Suppliers`

/* Display a combined table showing all products and their related data
        SELECT * FROM Suppliers
                INNER JOIN Certifications ON Suppliers.fk_cert_id=Certifications.cert_id
                INNER JOIN Engineers ON Suppliers.fk_eng_id=Engineers.eng_id
                INNER JOIN Products ON Suppliers.supp_id=Products.fk_supp_id
                ORDER BY prod_id ASC;
```

```
/* Displays supp_eng the many-to-many relationship of assigned engineers and suppliers
        SELECT * FROM Suppliers INNER JOIN Engineers ON
                Suppliers.fk_eng_id=Engineers.eng_id;

/* Display all suppliers that have expired or no certification on file
        SELECT * FROM Suppliers
                INNER JOIN Certifications ON Suppliers.fk_cert_id=Certifications.cert_id
                WHERE due_date < CURDATE();

/* Display all suppliers with certifications due in the next month
        SELECT * FROM Suppliers
                INNER JOIN Certifications ON Suppliers.fk_cert_id=Certifications.cert_id
                WHERE due_date BETWEEN CURDATE() AND CURDATE() + 30 ;
```

07 - HTML

See attached source code files

08 - PHP

See attached source code files

09 - Style

See attached source code files

```
add_cert.php  del_cert.php  new_cert.php  rem_cert.php  storedInfo.php
add_esg.php   del_esg.php   new_esg.php   rem_esg.php   SuppDB.php
add_prod.php  del_prod.php  new_prod.php  rem_prod.php
add_supp.php  del_supp.php  new_supp.php  rem_supp.php
flip2 ~/public_html/CS275/Final 112% add_cert.php
add_cert.php:1: line 1: 'php: No such file or directory
add_cert.php: line 2: syntax error near unexpected token  `'display_errors'
add_cert.php: line 2:  ini_set('display_errors', '0');'
flip2 ~/public_html/CS275/Final 113% php -l add_cert.php
No syntax errors detected in add_cert.php
flip2 ~/public_html/CS275/Final 114% php -l del_cert.php
No syntax errors detected in del_cert.php
flip2 ~/public_html/CS275/Final 115% php -l new_cert.php
No syntax errors detected in new_cert.php
flip2 ~/public_html/CS275/Final 116% php -l rem_cert.php
No syntax errors detected in rem_cert.php
flip2 ~/public_html/CS275/Final 117% php -l storedInfo.php
No syntax errors detected in storedInfo.php
flip2 ~/public_html/CS275/Final 118% php -l add_esg.php
No syntax errors detected in add_esg.php
flip2 ~/public_html/CS275/Final 119% php -l del_esg.php
No syntax errors detected in del_esg.php
flip2 ~/public_html/CS275/Final 120% php -l new_esg
Could not open input file: new_esg
flip2 ~/public_html/CS275/Final 121% php -l new_esg.php
No syntax errors detected in new_esg.php
flip2 ~/public_html/CS275/Final 122% php -l rem_esg.php
No syntax errors detected in rem_esg.php
flip2 ~/public_html/CS275/Final 123% php -l SuppDB.php
No syntax errors detected in SuppDB.php
flip2 ~/public_html/CS275/Final 124% php -l add_prod.php
No syntax errors detected in add_prod.php
flip2 ~/public_html/CS275/Final 125% php -l del_prod.php
No syntax errors detected in del_prod.php
flip2 ~/public_html/CS275/Final 126% php -l new_prod.php
No syntax errors detected in new_prod.php
flip2 ~/public_html/CS275/Final 127% php -l rem_prod.php
No syntax errors detected in rem_prod.php
flip2 ~/public_html/CS275/Final 128% php -l add_supp.php
No syntax errors detected in add_supp.php
flip2 ~/public_html/CS275/Final 129% php -l php -l del_supp.php
Could not open input file: php
flip2 ~/public_html/CS275/Final 130% php -l del_supp.php
No syntax errors detected in del_supp.php
flip2 ~/public_html/CS275/Final 131% php -l new_supp.php
No syntax errors detected in new_supp.php
flip2 ~/public_html/CS275/Final 132% php -l rem_supp.php
No syntax errors detected in rem_supp.php
flip2 ~/public_html/CS275/Final 133%
```