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EXECUTIVE SUMMARY

Wilco Constructions is a reputed state contractor for government and non-government infrastructure construction. The company is the brainchild of Jack Wilson and Bob Wilson. The two major advantages the firm possesses are Jack and Bob's experience in the field and the company's extremely low overhead. Wilco is a small business organization with very few official titles. While Jack and Bob make most of the strategic decisions, Mary handles the daily administration in the office.

Wilco Construction is challenged by manpower imposed by rigorous payroll calculations, asset tracking, and EEOC bi-weekly report. The greatest opportunity lies in developing an information management system which will function across three major problems: Inventory tracking, EEOC biweekly report and payroll generation.

Phase 1 deliverable include:

1. Creation of Human Resource Information Management System and designing the database ERD to save all the data.
2. Developed parenthetical and ERD models required for the business solutions being proposed.
3. Planning the design required for Asset tracking system.

Phase 2 deliverable include:

1. Considering the scope for developments and human errors, the database designed must be redesigned.
2. Develop the new database design which is completely operational by writing respective queries.

Phase 3 deliverable include:

1. Defining the scope of this project by discussing the major changes made in the database design.
2. Web App Prototype which will serve as GUI for a functional database.

Technical Feasibility: The development team is familiar and comfortable with the technologies required to accomplish this project. Familiarity with Wilco Construction's business process is a moderate requirement, which will be attained by continuous communication with the business process owner, Mary Wilson. The lack of significant existing technology infrastructure at Wilco Construction poses a little technical risk, though it may impact organizational feasibility, about training, and ease-of-use in the final product.

Organizational Feasibility: The existing process at Wilco Construction is identified as complex, and manually intensive. Because the proposed process requires both technological changes, and changes to the business process, there is some risk surrounding the adoption of the new system. Wilco recognized the business problems and planned for Technical solutions. In addition, the technical skills required to use the new developed systems will be a mitigated risk. This can be dealt with a demo of the functioning of the proposed system to the Managerial and administrative employees of Wilco.

Financial Feasibility: The database system proposed here will require Wilco to invest money on obtaining the softwares, equipments like scanners, database, computers etc. Although there is a significant investment requirement to start the database system it will be helpful in the long run as the system will save significant amount of manpower required to solve the issues that Wilco currently faces.

INTRODUCTION

Wilco Construction Company is a State Qualified Highway Contractor in Ohio. Jack and Bob Wilson started the company about twenty years ago. The company relies heavily on labor-intensive manual processes, which have been done by Mary in the last twenty years. Wilco's major client is the State of Ohio, Highway Division, which accounts for 90% of the company's business. Approximately Wilco's annual gross revenue lies between 3.5 to 5 million dollars. While the company has kept its organic structure since the beginning, new regulations, complex labor wage scales, and other added complying requirements make it more difficult for Mary to manually process and manage the company's paperwork.

Currently, Wilco runs heavily on the manual-intensive system to manage payroll, employee's information, finance, and inventory. At the same time, the legal and regulatory environment has become much more complex than when the company first started. The opportunity to expand for Wilco has been hindered by the old and run-down system that is in place. These are a few problems Wilco needs to fix:

1. Most Pressing Problem – Bi-Weekly Compliance Report to EEOC Employment equity legislation has become one of the issues in the company. Companies are required to employ a certain percentage of visible minorities and women on each job. Wilco needs to comply with the new legislation by reporting the hours and the skill classification every two weeks to the Ohio Equal Employment Opportunity Commission (EEOC). Failure to comply could result in eligibility to bid on state contracts.
2. Secondly, there are a lot of equipment and inventory involved in construction jobs. Moving goods and components across various sites is often cited as the significant process cost because of the complexity of the supply chain. Hence this could take a higher priority in most of the organizations.
3. Lastly, Mary is facing a lot of issues with the payroll. Since Wilco follows equal employer opportunities rule, every worker is flexible enough to navigate through skills which are a huge list in the construction industry. There is no Labor Union in Wilco, every Employee is free to work in the skill they have mastered. It is called EFCA (Employee Free Choice Act). Hence, every skill has different pay rate. This would cost the company a lot of time, money and effort.

PROBLEM STATEMENT

Wilco Construction relies on an outdated, completely manual system to handle employee, financial and physical asset tracking. The Company is facing issues producing, and tracking payroll, and tracking demographic information required for government reports and compliance. Wilco Construction is interested in a process that will afford the company an easier way to track assets, produce government reporting, and maintain high-quality payroll processes. Overall, Wilco Construction needs to reduce complexity and the time spent on these tasks.

FOCUS OF THE DATABASE SOLUTION

The recommended solution will include the company investing in software, a customized database, hardware, including a server. Wilco Constructions will also require instilling a network infrastructure to support proposed a system. There would be a whole training session involved for the employees, which will be done in the final stage.

The first phase of the proposed system will automate the three major issues being faced by Wilco.

Attendance is the key to every company profits. The first part of the technical system is by using a fingerprint authentication for all the employees of Wilco. By implementing this, the number of hours logged in by each employee on every job site and under every skill will be recorded. This is a reliable and cost-effective information management system. This in turn also helps automate the payroll process. If the biometric records are stored in the database, then which employee worked for how many hours can be calculated based on the skills and the job site distance from the union.

Inventory tracking is the next part of the system, which includes bar code scanning for every equipment being checked out from Wilco for use. Barcode scanners can be extremely simple devices made up of a light source, a photodiode, and a simple decoder or complex CCD or camera-based scanners. Learn how barcode scanners work and how to scan barcodes into a computer. These devices can be used to track the equipment or which are being checked out by employees and how many are being taken.

Finally, the system will generate reporting for EEOC compliance in the state of Ohio.

FUTURE SCOPE

Wilco Construction currently relies on labor-intensive manual processes for managing resources within the Company. The Company will implement a new system to automate these tasks. The improved system is expected to reduce the time spent on these tasks by 50%. The project's sponsors are partners Jack Wilson, and Bob Wilson, and the office manager, Mary Wilson. The implemented system will be able to do the following functions successfully:

- Simplify human resources, including payroll processing, and government reporting.
- Track the Company's physical assets.
- Track Company projects and bids.
- Tie these systems together into a comprehensive easy-to-use system

PARENTHETICAL MODEL FOR WILCO CONSTRUCTIONS

EMPLOYEE (EmpID, LastName, FirstName, *EmployeeAddressID*, Age, Gender, Ethnicity, HomePhone, CellPhone, Email, Designation, SSN, MaritalStatus, DOB)

FULLADDRESS (AddressID, ApartmentNumber, StreetName, City, State, Country, ZIP)

SKILL (SkillID, SkillName, PayRate)

SITEDetail (SiteID, SiteName, *SiteAddressID*, SupervisorName, DistFromUnion, SiteType, SiteStatus, StartDate, EndDate)

PAYROLL (*EmpID*, *SkillID*, *SiteID*, HoursWorked, FringePay)

EMPLOYEE_SITE (*EmpID*, *SiteID*, HoursWorked)

EQUIPMENTDETAIL (EquipmentID, EquipmentName, EquipmentType, EquipmentOwner)

EQUIPMENTCHECKOUT (EquipmentCheckOutID, CheckOutTime, CheckInTime, *EmpID*, *EquipmentID*, *SiteID*)

SUPPLIER (SupplierID, SupplierName, *SupplierAddressID*)

INVENTORY (InventoryID, InventoryName, QuantityInStock)

SUPPLIER_INVENTORY (*InventoryID*, *SupplierID*, Price)

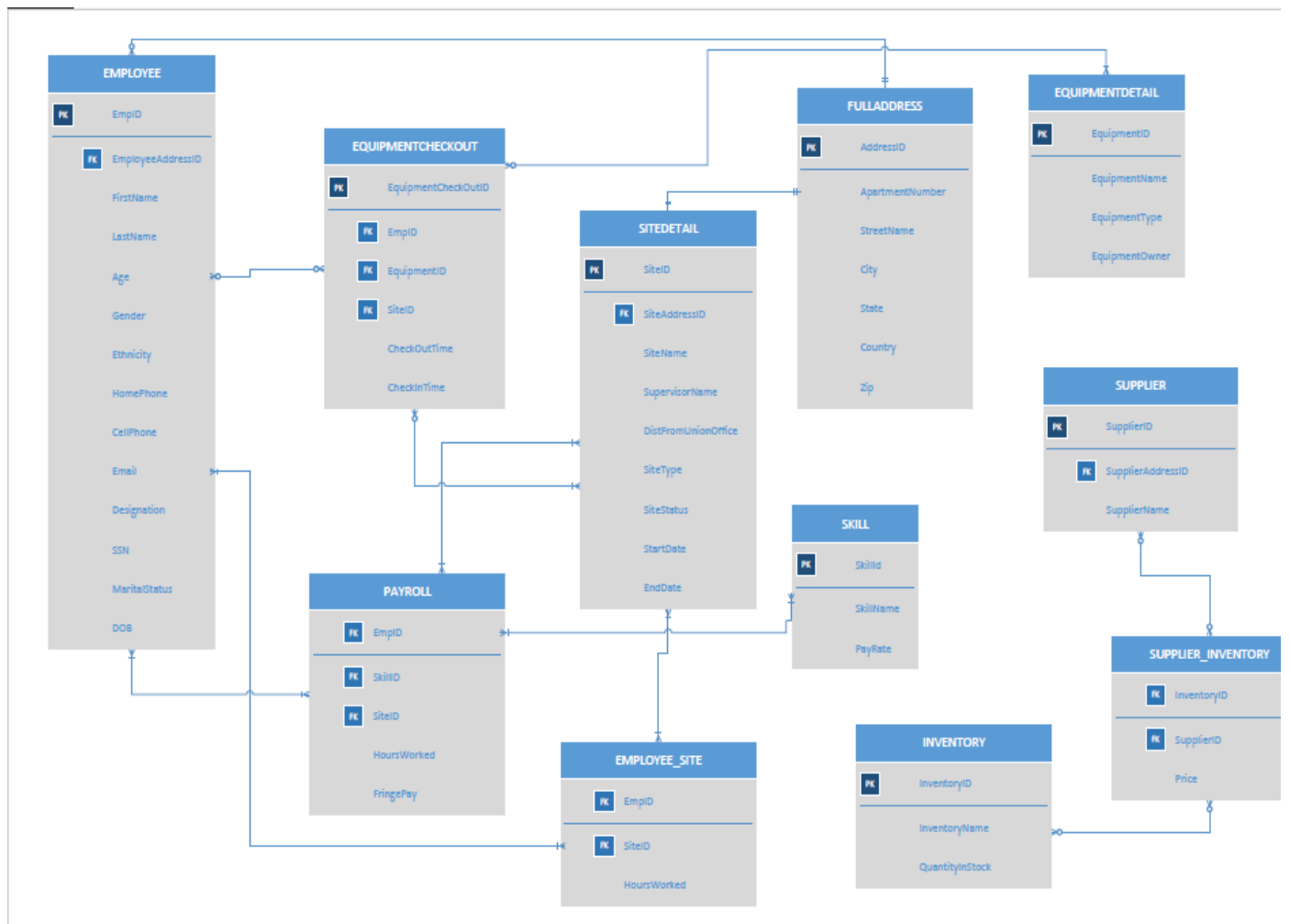
CHANGES IN THE DATABASE ERD MODEL

The Database ERD model proposed in the first part of the project was based on the general information provided in the pdf of project part 1. However, there was a need to change the ERD model as new information was provided in project part 2. Several data table needed to be dropped and a few tables were added to help make forms required by Wilco. Tables like JOBASSIGNMENT, TIMECLOCK, and SUPERVISOR were dropped as these tables added redundancy to the database and were adding to the complexity. The added tables include PAYROLL, EMPLOYEE_SITE, INVENTORY, SUPPLIER, AND SUPPLIER_INVENTORY. The added tables would help calculate payroll of the employees easily, also help track which employee works at which site, and helps track inventory and supplier who provides those inventories. This way if anyone at Wilco needs to reorder some of the inventories then it will have a log of which supplier to approach.

Some of the tables had to be renamed and some tables needed removal and addition of fields. For example, EQUIPMENTCHECKOUT table needed removal of field CheckOutDate, ReturnDate, EquCheckOutQuantity, and addition of EquipmentID and SiteID. Addition of EquipmentID and SiteID allows users to check which equipment is checked out for which site.

Below is the revised entity relationship diagram.

Revised Entity Relationship Diagram



QUERIES

Query that help build EEOC Form:

```

/**** Employee Details ****/
SELECT      e.SSN, e.LastName, e.FirstName, f.ApartmentNumber,
            f.StreetName, f.City, f.State, f.ZIP, e.CellPhone,
            e.DOB, e.Gender, e.MaritalStatus, e.Ethnicity
FROM        EMPLOYEE e JOIN FULLADDRESS f
            ON e.EmployeeAddressID = f.AddressID

/**** EEOC ****/
SELECT Distinct dbo.FirstLastname(FirstName, LastName) as EmployeeName, s.SkillName, e.Gender, e.EmpID,
            e.Ethnicity, p.HoursWorked
FROM EMPLOYEE e, SKILL s, PAYROLL p
where p.EmpID=e.EmpID and p.SkillID = s.SkillID and (e.Gender='Female' OR e.Ethnicity = 'Minority')

SELECT COUNT(DISTINCT(EmpID)) as NoOfMinorOrFemaleEmployee FROM EMPLOYEE WHERE (Gender='Female' OR Ethnicity = 'Minority');
SELECT COUNT(DISTINCT(EmpID)) as TotalEmployee FROM EMPLOYEE;

```

Query results for EEOC Form:

	SSN	LastName	FirstName	ApartmentNum...	StreetName	City	St...	ZIP	CellPhone	DOB	Gender	MaritalStat...	Ethnicity
1	101210122	Goodyear	Katherine	23	1515 NW Market Street	Granville	OH	98107	6572531319	1950-01-09	Female	Un-Married	Non-Minority
2	101210123	Bancroft	Chris	23	1515 NW Market Street	Granville	OH	98107	6572531320	NULL	Male	Married	Minority
3	101210124	Griffith	John	226	1102 3rd Street	Mason	OH	98033	6572531321	NULL	Male	Un-Married	Minority
4	101210125	Tierney	Doris	23	1515 NW Market Street	Granville	OH	98107	6572531322	NULL	Female	Un-Married	Minority
5	101210126	Anderson	Donna	226	1102 3rd Street	Mason	OH	98033	6572531323	NULL	Female	Un-Married	Minority
6	101210127	Svane	Jack	227	533 10th Avenue	Mason	OH	98033	6572531324	NULL	Male	Married	Non-Minority
7	101210128	Walsh	Denesha	23	1515 NW Market Street	Granville	OH	98107	6572531325	NULL	Female	Un-Married	Minority
8	101210129	Enquist	Craig	226	1102 3rd Street	Mason	OH	98033	6572531326	NULL	Female	Married	Minority
9	101210130	Anderson	Rose	227	533 10th Avenue	Mason	OH	98033	6572531327	NULL	Female	Married	Minority
10	101210131	Stuart	Anne	226	1102 3rd Street	Mason	OH	98033	6572531328	NULL	Female	Married	Minority
11	101210132	Stuart	George	223	621 Roy Street	Granville	OH	98109	6572531329	NULL	Female	Married	Minority
	EmployeeNa...	SkillName	Gen...	EmpID	Ethnicity	HoursWork...							
1	Chris Bancroft	Carpentry	Male	502	Minority	5							
2	Chris Bancroft	Iron Work	Male	502	Minority	5							
3	Chris Bancroft	Labor	Male	502	Minority	30							
4	Chris Bancroft	Masonry	Male	502	Minority	10							
5	Donna Ande...	Carpentry	Fem...	505	Minority	10							
6	Donna Ande...	Equipm...	Fem...	505	Minority	5							
7	Donna Ande...	Iron Work	Fem...	505	Minority	5							
8	Donna Ande...	Labor	Fem...	505	Minority	30							
9	Donna Ande...	Masonry	Fem...	505	Minority	5							
10	Doris Tierney	Carpentry	Fem...	504	Minority	5							
11	Doris Tierney	Carpentry	Fem...	504	Minority	10							
12	Doris Tierney	Labor	Fem...	504	Minority	30							
13	John Griffith	Carpentry	Male	503	Minority	5							
	NoOfMinorOrFemaleEmpl...												
1	15												
	TotalEmployee												
1	20												

The above written query joins employee table and fulladdress table where addressID matches.

The results show detailed information of employee as shown in Form A of project part 2 instructions. The second query generates the EEOC requirements by using Employee, Skill, and Payroll tables.

Query to show inventory tracking:

```

/**** Equipment Details ****/
SELECT      EquipmentName, COUNT(EquipmentName) AS TotalEquipment
FROM        EQUIPMENTDETAIL
GROUP BY    EquipmentName
ORDER BY    EquipmentName;
/****

/**** Equipment Tracking *****/
SELECT      dbo.FirstLastame(FirstName, LastName) as EmployeeName, e.EquipmentName, si.SiteName, EQUIPMENTCHECKOUT.CheckOutTime, EQUIPMENTCHECKOUT.CheckInTime,
DATEDIFF(Hour, EQUIPMENTCHECKOUT.CheckOutTime, EQUIPMENTCHECKOUT.CheckInTime) AS TotalTime
FROM        EQUIPMENTCHECKOUT, EQUIPMENTDETAIL AS e, SITEDetail AS si, EMPLOYEE
WHERE       EQUIPMENTCHECKOUT.EquipmentID = e.EquipmentID AND EQUIPMENTCHECKOUT.SiteID = si.SiteID AND EQUIPMENTCHECKOUT.EmpID = EMPLOYEE.EmpID
/****

/**** Equipment details issued by Employees *****/
SELECT      dbo.FirstLastame(FirstName, LastName) as EmployeeName, e.EquipmentName, si.SiteName, EQUIPMENTCHECKOUT.CheckOutTime, EQUIPMENTCHECKOUT.CheckInTime
FROM        EQUIPMENTCHECKOUT, EQUIPMENTDETAIL AS e, SITEDetail AS si, EMPLOYEE
WHERE       EQUIPMENTCHECKOUT.EquipmentID = e.EquipmentID AND EQUIPMENTCHECKOUT.SiteID = si.SiteID AND EQUIPMENTCHECKOUT.EmpID = EMPLOYEE.EmpID
ORDER BY    EmployeeName
/****

```

Results that show inventory tracking information:

	EquipmentName	TotalEquipment
1	Bulldozer	1
2	Car	3
3	Compactors	1
4	Concrete Mixture	1
5	Dumber	1
6	Excavator	1
7	Forklift	1
8	Loader	1

	EmployeeName	EquipmentNa...	SiteName	CheckOutTime	CheckInTime	TotalTime
1	Katherine Goodyear	Tipper	Bexday Site	2017-06-01 13:00:00.000	2017-06-01 17:00:00.000	4
2	Chris Bancroft	Dumber	Yorbe Site	2017-06-01 13:00:00.000	2017-06-01 17:00:00.000	4
3	John Griffith	Trailer	Madison Site	2017-06-01 13:00:00.000	2017-06-01 16:00:00.000	3
4	Doris Tierney	Tanker	Bakers Ma...	2017-06-01 13:02:00.000	2017-06-01 16:02:00.000	3
5	Donna Anderson	Excavator	Wetheringt...	2017-06-01 13:02:15.000	2017-06-01 15:59:15.000	2
6	Jack Svane	Loader	Bellingham...	2017-06-01 13:03:00.000	2017-06-01 16:03:00.000	3
7	Denesha Walsh	Skid Loader	Prospect S...	2017-06-01 13:03:30.000	2017-06-01 15:58:30.000	2
8	Craig Enquist	Bulldozer	Bobman Site	2017-06-01 13:03:45.000	2017-06-01 17:03:45.000	4

	EmployeeNa...	EquipmentNa...	SiteName	CheckOutTime	CheckInTime
1	Anne Stuart	Forklift	Bexday Site	2017-06-01 13:04:30.000	2017-06-01 16:04:30.000
2	Bobman Frank	Truck	Libra Site	2017-06-03 14:01:30.000	NULL
3	Chris Bancroft	Dumber	Yorbe Site	2017-06-01 13:00:00.000	2017-06-01 17:00:00.000
4	Craig Enquist	Bulldozer	Bobman ...	2017-06-01 13:03:45.000	2017-06-01 17:03:45.000
5	Denesha Wa...	Skid Loader	Prospect...	2017-06-01 13:03:30.000	2017-06-01 15:58:30.000
6	Donna Ande...	Excavator	Wetherin...	2017-06-01 13:02:15.000	2017-06-01 15:59:15.000
7	Doris Tierney	Tanker	Bakers ...	2017-06-01 13:02:00.000	2017-06-01 16:02:00.000
8	George Stuart	Concrete Mxt...	Ohio Site	2017-06-01 13:05:00.000	2017-06-01 16:05:00.000
9	Jack Svane	Loader	Bellingha...	2017-06-01 13:03:00.000	2017-06-01 16:03:00.000

The above query gets the EquipmentName and TotalEquipment by accessing equipmentdetail table. The equipment tracking query accessing equipmentcheckout, equipmentdetail, sitedetail, and employee table in order to figure out the employeeName, EquipmentName, SiteName, CheckOutTime, and CheckInTime.

PROTOTYPE MODEL SCREENSHOTS

The working prototype was built using Microsoft Powerapps. This is an online tool which enables us to build business apps easily with the integration of the app to the database. The platform has a lot of templates and built in modules to help us build an app either on tablet or mobile environment.

This is the main page of Wilco Construction company WebApp. The Username and password fields are text input fields and the login button navigates us to the next page, i.e., the menu page.



WILCO CONSTRUCTION COMPANY

LEADERS IN QUALITY CONSTRUCTION & INFRASTRUCTURE

USERNAME


PASSWORD

LOGIN

The menu page here shows the most important three reasons why this prototype and the whole system was built. The arrows re the navigation signs to the next pages. In the inventory tracking page, there is an input text field for equipment ID and a button, which on action or selected, will show the results based on the equipment ID given.





The inventory tracking page also has an option to look for all the checked out items which is got by the selection of the button checked out button.





Inventory Tracking

CHECKED OUT EQUIPMENTS










HAMMER

Drilling Machine

Rad Roller

Concrete Mixer



Text input


TRACK

CHECKED OUT ITEMS

Below are the results of the back end query when equipment id was given as input.


CHECKED OUT DETAILS					
	EmployeeName	EquipmentName	SiteName	CheckOutTime	CheckInTime
1	Anne Stuart	Forklift	Bexley Site	2017-06-01 13:04:30.000	2017-06-01 16:04:30.000
2	Bobman Frank	Truck	Libra Site	2017-06-03 14:01:30.000	NULL
3	Chris Bancroft	Dumber	Yorba Site	2017-06-01 13:00:00.000	2017-06-01 17:00:00.000
4	Craig Enquist	Bulldozer	Bobman Site	2017-06-01 13:03:45.000	2017-06-01 17:03:45.000
5	Denesha Walsh	Skid Loader	Prospect Site	2017-06-01 13:03:30.000	2017-06-01 15:58:30.000
6	Donna Anderson	Excavator	Wetherington Roadway	2017-06-01 13:02:15.000	2017-06-01 15:59:15.000
7	Doris Tierney	Tanker	Bakers Mansion	2017-06-01 13:02:00.000	2017-06-01 16:02:00.000
8	George Stuart	Concrete Mixture	Ohio Site	2017-06-01 13:05:00.000	2017-06-01 16:05:00.000
9	Jack Svane	Loader	Bellingham Site	2017-06-01 13:03:00.000	2017-06-01 16:03:00.000
10	John Griffith	Trailer	Madison Site	2017-06-01 13:00:00.000	2017-06-01 16:00:00.000
11	John Griffith	Truck	Miller Site	2017-06-01 13:06:00.000	2017-06-01 16:06:00.000
12	John Stuart	Truck	Bakers Bill	2017-06-01 13:06:15.000	2017-06-01 16:10:15.000
13	Katherine Goodyear	Tipper	Bexley Site	2017-06-01 13:00:00.000	2017-06-01 17:00:00.000
14	Orange Griffith	Truck	Roadway	2017-06-01 13:06:30.000	2017-06-01 16:06:30.000
15	Orange Griffith	Truck	Belling Board	2017-06-01 13:07:00.000	2017-06-01 16:07:00.000
16	Rose Anderson	Wheeled loading shovel	Linda Site	2017-06-01 13:04:00.000	2017-06-01 16:04:00.000
17	William Orange	Compactors	Craimer Site	2017-06-01 13:05:30.000	2017-06-01 16:05:30.000
18	Wilson Bob	Truck	Bobman Park	2017-06-03 14:01:00.000	2017-06-03 17:01:00.000
19	Wilson Jack	Truck	Prospect Site	2017-06-03 14:00:00.000	2017-06-03 17:00:00.000
20	Wilson Mary	Truck	Bexley Site	2017-06-03 14:02:00.000	2017-06-03 17:02:00.000

The following page shows the EEOC report generation which should be given bi weekly. Once the start date and the end date of the bi weekly period is given, the generate report button will give us the table of records which is shown in the next image




EEOC REPORT

5/19/2017

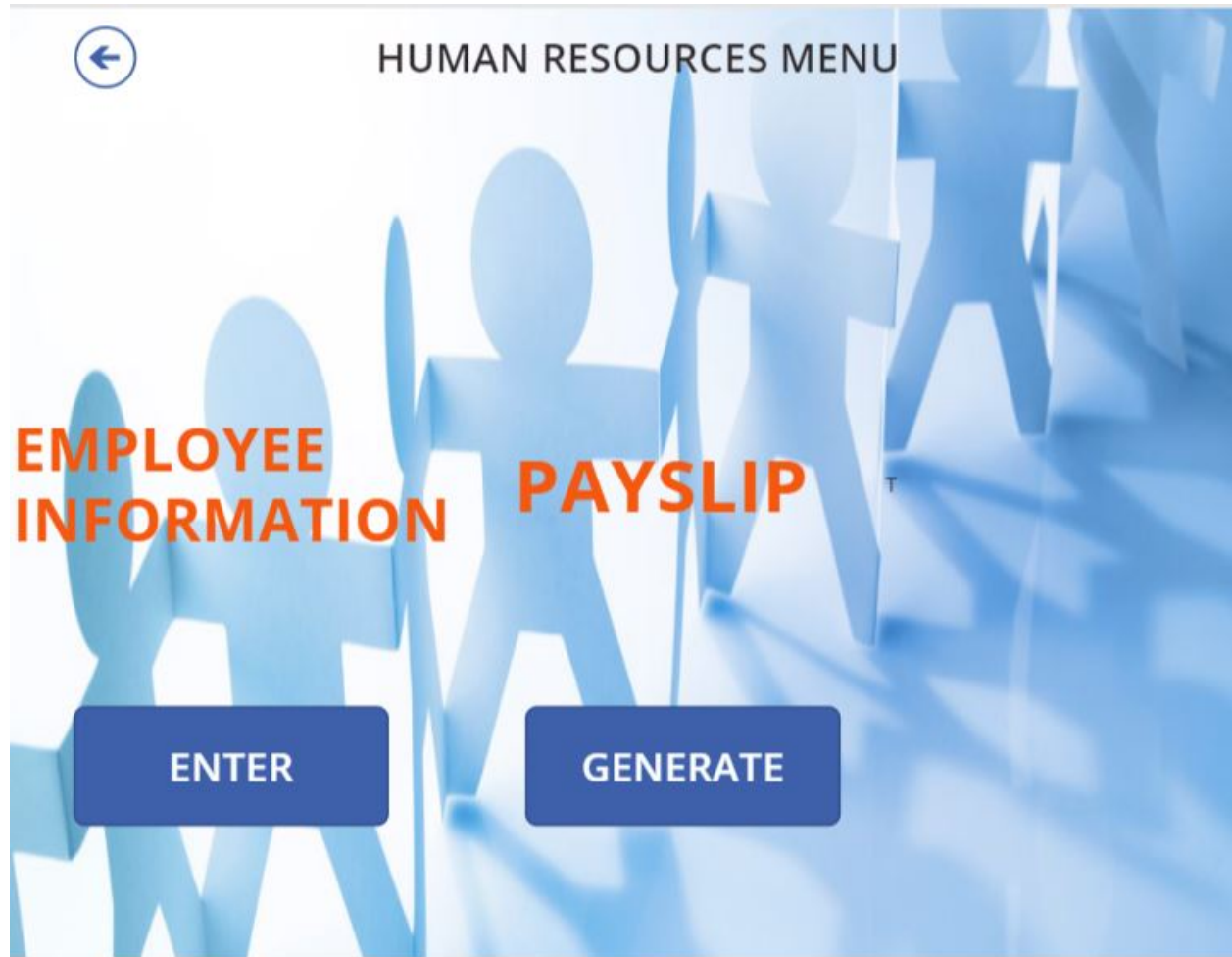


5/19/2017



GENERATE REPORT

Lastly, the Human Resources department was also facing a lot of issues when it came to Payroll. So once the options are selected in the below page, the two respective pages asks for the inputs required to generate payroll and gives us the result.





EMPLOYEE DETAILS

	SSN	LastName	FirstName	ApartmentNumber	StreetName	City	State	ZIP	CellPhone	DOB	Gender	MaritalStatus	Ethnicity
1	101210122	Goodyear	Katherine	23	1515 NW Market Street	Granville	OH	98107	6572531319	1950-01-09	Female	Un-Married	Non-Minority
2	101210123	Bancroft	Chris	23	1515 NW Market Street	Granville	OH	98107	6572531320	NULL	Male	Married	Minority
3	101210124	Griffith	John	226	1102 3rd Street	Mason	OH	98033	6572531321	NULL	Male	Un-Married	Minority
4	101210125	Tierney	Doris	23	1515 NW Market Street	Granville	OH	98107	6572531322	NULL	Female	Un-Married	Minority
5	101210126	Anderson	Dorina	226	1102 3rd Street	Mason	OH	98033	6572531323	NULL	Female	Un-Married	Minority
6	101210127	Swane	Jack	227	533 10th Avenue	Mason	OH	98033	6572531324	NULL	Male	Married	Non-Minority
7	101210128	Walsh	Denesha	23	1515 NW Market Street	Granville	OH	98107	6572531325	NULL	Female	Un-Married	Minority
8	101210129	Enquist	Craig	226	1102 3rd Street	Mason	OH	98033	6572531326	NULL	Female	Married	Minority
9	101210130	Anderson	Rose	227	533 10th Avenue	Mason	OH	98033	6572531327	NULL	Female	Married	Minority
10	101210131	Stuart	Anne	226	1102 3rd Street	Mason	OH	98033	6572531328	NULL	Female	Married	Minority
11	101210132	Stuart	George	223	621 Roy Street	Granville	OH	98109	6572531329	NULL	Female	Married	Minority
12	101210133	Orange	William	223	12605 NE 6th Street	Bellevue	OH	98005	6572531330	NULL	Male	Married	Minority
13	101210134	Griffith	John	227	533 10th Avenue	Mason	OH	98033	6572531331	NULL	Male	Married	Non-Minority
14	101210135	Stuart	John	327	6712 24th Avenue NE	Wetherington	OH	98053	6572531332	NULL	Male	Married	Minority
15	101210135	Griffith	Orange	232	621 Roy Street	Dublin	OH	98109	6572531333	NULL	Female	Married	Minority
16	101210136	Stuart	Shire	232	621 Roy Street	Dublin	OH	98109	6572531334	NULL	Female	Married	Minority
17	101210137	Jack	Wilson	227	533 10th Avenue	Mason	OH	98033	6572531335	NULL	Male	Married	Non-Minority
18	101210138	Bob	Wilson	232	621 Roy Street	Dublin	OH	98109	6572531336	NULL	Male	NULL	Non-Minority
19	101210139	Frank	Bobman	137	335 Aloha Street	Dublin	OH	98109	6572531337	NULL	Male	NULL	Non-Minority
20	101210139	Mary	Wilson	37	1410 Hillcrest Parkway	Mt. Vernon	OH	98273	6572531338	NULL	Female	Married	Non-Minority

	SkillName	Payrate	FringePay	TotalCompensation
1	Carpentry	12.00	3	15.00
2	Equipment Operation	15.00	3	18.00
3	Iron Work	14.00	3	17.00
4	Labor	11.00	3	14.00
5	Masonry	13.00	3	16.00