**User View 1**

**UNF**:

**INVOICE** [INVOICE#, INVOICE\_DATE, TEAM\_ID, CUSTOMER\_NO, CUSTOMER\_NAME, STREET, POSTAL\_CODE, {EQUIP\_ID, EQUIP\_DESC} {SERVICE\_CODE, SERVICE\_DESC,HOURLY\_CHARGE, WORK\_DURATION, TOTAL\_CHARGE}, SUBTOTAL, GST, PST]

**1NF**:

**INVOICE** [INVOICE#, CUSTOMER\_NO, SERVICE\_CODE, EQUIP\_ID, INVOICD\_DATE, TEAM\_ID, EQUIP\_DESC , CUTOMER\_NAME, STREET, POSTAL\_CODE, SERVICE\_DESC,HOURLY\_CHARGE, WORK\_DURATION, TOTAL\_CHARGE}, SUBTOTAL, GST, PST]

**2NF**:

**INVOICE** [INVOICE#(PK), INVOICE\_DATE, EQUIP\_ID, CUSTOMER\_NO(FK), SERVICE\_CODE(FK), TEAM\_ID]

**CUSTOMER** [CUSTOMER\_NO(PK), CUSTOMER\_NAME, STREET, POSTAL\_CODE]

**SERVICE** [SERVICE\_CODE(PK), SERVICE\_DESC,HOURLY\_CHARGE, WORK\_DURATION]

**EQUIP [**EQUIP\_ID(PK), EQUIP\_DESC]

**3NF**:

**INVOICE [**INVOICE#(PK), INVOICE\_DATE]

**CUSTOMER** [CUSTOMER\_NO(PK), CUTOMER\_NAME, STREET, POSTAL\_CODE]

**SERVICE** [SERVICE\_CODE(PK), SERVICE\_DESC,HOURLY\_CHARGE]

**CUSTOMER\_SERVICE**

[CUST\_SERV\_ID(PK), SERVICE\_CODE(FK), CUSTOMER\_NO(FK), TEAM\_ID(FK), SERVICE\_DATE, WORK\_DURATION, INVOICE\_ID(FK) ]

**EQUIPMENTSERVICE**

[CUSTOMER\_SERVICE(PK, FK), EQUIP\_ID(PK, FK)]

**EQUIP** [EQUIP\_ID, EQUIP\_DESC]

**USER VIEW 2**

**UNF:**

**TEAM** [TEAM\_ID, TEAM\_DESC, {EMP\_POSITION, EMP\_NAME, EMP\_ID, OHIP, HOME\_PHONE, START\_DATE, {SKILL\_NO, SKILL\_DESC}}]

**1NF:**

**TEAM** [TEAM\_ID, EMP\_ID, SKILLS\_NO, TEAM\_DESC, EMP\_NAME, EMP\_POSITION, OHIP, HOME\_PHONE, START\_DATE, SKILL\_DESC]

**2NF:**

**TEAM** [TEAM\_ID(PK), EMP\_ID(FK), SKILLS\_NO(FK)]

**EMPLOYEE** [EMP\_ID(PK), SKILLS\_NO, EMP\_NAME, EMP\_POSITION, OHIP, HOME\_PHONE, START\_DATE, SKILL\_DESC]

**3NF:**

**TEAM** [TEAM\_ID(PK), EMP\_ID(FK), SKILLS\_NO(FK)]

**EMPLOYEE** [EMP\_ID(PK), SKILLS\_NO(FK), EMP\_NAME, EMP\_POSITION, OHIP, HOME\_PHONE, START\_DATE]

**SKILLIST** [SKILLNO(PK), SKILLDESC]

**User View 3**

**IT’S ALREADY IN 1NF**

**1NF:**

**SALESPRODUCT**

[INVOICE#(PK), PROD\_ID(PK), CUST\_NO, PROD\_CLASS, PRODUCT\_NAME, CHARGE, QTY, INVOICE DATE, SALES ASSISTANT]

**2NF:**

**SALESPRODUCT**

[INVOICE#(PK), CUSTOMER\_ID(PK), PRODUCT\_ID, QTY, SALESASSISTANT]

**INVOICE**

[INVOICE#(PK), INVOICD\_DATE]

**PRODUCT**

[ProductID(PK), PROD\_CLASS, ProductName, Class\_Desc, Cost, Markup, Charge, InventoryQty, SupplierID, Aisle]

**EMPLOYEE**

[EmployeeID(PK), Employee\_Fname, Employee\_Lname, Position, HomePhone, CellPhone, HireDate, Skill\_ID, TeamID(FK)]

**3NF:**

**SALESPRODUCT** [CUSTOMER\_ID(PK), PRODUCT\_ID, QTY, SALESASSISTANT]

**INVOICE[**INVOICE#(PK), INVOICD\_DATE]

**PRODUCT** [ProductID(PK), ClassCode(FK), ProductName, Description, Cost, Markup, Charge, InventoryQty, SupplierID, Aisle]

**EMPLOYEE** [EmployeeID(PK), Employee\_Fname, Employee\_Lname, Position, HomePhone, CellPhone, HireDate, Skill\_ID, TeamID(FK)]

**PRODUCTCLASS** [ClassCode(PK), Class\_Desc]

**User View 4**

**UNF**

**PRODUCT\_REPORT** [PROD\_ID(PK), {PRODUCT\_CLASS, CLASSIFICATION}, PROD\_DESC, COST, MARKUP, CHARGE]

**1NF**

**PRODUCT\_REPORT** [PROD\_ID(PK), PRODUCT\_CLASS(PK), CLASSIFICATION, PROD\_DESC, COST, MARKUP, CHARGE]

**2NF**

**PRODUCT\_REPORT** [ProductID(PK), Class\_Name]

**PRODUCT** [ProductID(PK), ClassCode(FK), Prod\_Desc, Cost, Markup, Charge]

**3NF**

**PRODUCT** [ProductID(PK), ClassCode(FK), Prod\_Desc, Cost, Markup, Charge]

**PRODUCTCLASS** [ClassCode(PK), ClassName]

**User View 5**

**UNF**

**PRODUCT** [PRODUCT\_ID(PK), DESCRIPTION, INVENTORY, AISLE#, {SUPPLIER}]

**1NF**

**PRODUCT** [PRODUCT \_ID(PK), SUPPLIER(PK), DESCRIPTION, INVENTORY, AISLE#]

**2NF**

**PRODUCT** [ProductID(PK), ClassCode(FK), DESCRIPTION, INVENTORY, AISLE#]]

**SUPPLIER** [SupplierID (PK), SupplierName]

**3NF**

**PRODUCT** [ProductID(PK), ClassCode(FK), DESCRIPTION, INVENTORY, AISLE#]]

**SUPPLIER** [SupplierID (PK), SupplierName]

**MERGED SOLUTION**

**INVOICE[**INVOICE#(PK), INVOICD\_DATE]

**CUSTOMER** [CUSTOMER\_NO(PK), CUTOMER\_NAME, STREET, POSTAL\_CODE]

**SERVICE** [SERVICE\_CODE(PK), SERVICE\_DESC,HOURLY\_CHARGE]

**CUSTOMER\_SERVICE** [CUSTOER\_INVOICEID(PK), SERVIC\_CODE(FK), CUSTOER\_NO(FK), TEAM\_ID(FK), SERVICE\_DATE, WORK\_DURATION, INVOICE\_ID(FK) ]

**EQUIPMENTSERVICE** [CUSTOMER\_SERVICE(PK, FK), EQUIP\_ID(PK, FK)]

**EQUIPMENTS** [EQUIPMENT\_ID, EQUIPMENT\_NAME, DESCRIPTION]

**SALESPRODUCT** [CUSTOMER\_ID(PK), PRODUCT\_ID, QTY, SALESASSISTANT]

**PRODUCT** [ProductID(PK), ClassCode(FK), ProductName, Description, Cost, Markup, Charge, InventoryQty, SupplierID, Aisle]

**EMPLOYEE** [EmployeeID(PK), Employee\_Fname, Employee\_Lname, Position, OHIP, HomePhone, CellPhone, HireDate, Skill\_ID(FK), TeamID(FK)]

**PRODUCTCLASS** [ClassCode(PK), ClassName]

**SUPPLIER** [SupplierID (PK), SupplierName]

**TEAM** [TEAM\_ID(PK), EMP\_ID(FK), SKILLS\_NO(FK)]

**SKILLIST** [SKILLNO(PK), SKILLDESC]