**Course Number: AIT 524**

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**Homework Assignment 2**

**Description of Company**

“HomeInspections” develops third party software solutions small and large home inspections. Their primary solution is “EasyInspections”, software that allows home inspectors to quickly, efficiently, and easily create home inspection reports for residential and commercial properties. EasyInspections is being developed with small businesses in mind. It is our wish to enable small business home inspectors to be able to inspect a home and send a well-documented and professional PDF home inspection report by close of business that workday. It does this by letting a home inspector use a cell phone application or by printing out an inspection checklist and inputting the recorded data into its desktop application.

**Reasons for Database**

EasyInspections uses a relational database to store: inspection criteria, client data, inputs from the home inspection, and auto generating home inspection reports through queries.

**Business Rules**

1. Every inspection report will be associated with an inspector, contract, client, and inspection
   1. Each inspector will be associated with a name and a company
   2. Each contract will be associated with an inspection date, a client, inspection type, and witnesses
   3. Each client will be associated with an address, house type, house status
   4. Each inspection will be associated with an inspection template
      1. Each inspection template will be associated with subsystems
         1. Each subsystem will be associated with an introduction, inspection items, and a subsystem summary
            1. Each introduction will be associated with an auto introduction and an inspector introduction comment
            2. Each inspection item will be associated with an inspection status, material, flag status, and item inspection comment
2. An inspection report initializes with null fields
3. An inspector may not have any null fields
4. A contract may not have any null fields
5. A client may not have any null fields
6. An inspection template must have at least one subsystem
7. A subsystem may be null
8. An introduction must have one non null field
9. An inspection item may not be null
10. An inspection status may not be null
    1. It must be either inspected, not inspected, not applicable, failed inspection
    2. Inspection statuses are initialized as not inspected until a different data value is chosen
11. Material may not be null
12. The flag status may be null
13. A item inspection comment may be null

Description of Entities

1. INSPECTION\_REPORT
   1. This entity is represents a report made by the home inspector for the client. This is the deliverable of EasyInspections.
      1. REPORT\_ID
         1. Primary Key (PK) to uniquely identify a report
      2. INSPECTOR\_ID
         1. Foreign Key (FK) to identify the inspector that performed the inspection
      3. CLIENT\_ID
         1. FK to identify the client inspection was performed for
      4. CONTRACT\_ID
         1. FK to identify contract inspection was performed to
      5. INSPECTION\_ID
         1. FK to identify inspection that was performed
2. INSPECTOR
   1. INSPECTOR\_ID
      1. PK to uniquely identify the inspector
   2. INSPECTOR\_NAME
      1. Attribute that stores name of inspector
   3. INSPECTOR\_COMPANY\_ID
      1. FK to identify company
3. CONTRACT
   1. CONTRACT\_ID
   2. INSPECTION\_DATE
   3. CLIENT\_ID
   4. INSPECTION\_TYPE
   5. WITNESSES
4. CLIENT
   1. CLIENT\_ID
   2. CLIENT\_ADDRESS
   3. HOUSE\_TYPE
   4. HOUSE\_STATUS
5. INSPECTION
   1. INSPECTION\_ID
   2. INSPECTION\_TEMPLATE\_ID
6. INSPECTION\_TEMPLATE
   1. INSPECTION\_TEMPLATE\_ID
   2. SUBSYSTEM\_ID
7. SUBSYSTEM
   1. SUBSYSTEM\_ID
   2. SUBSYSTEM\_INTRODUCTION\_ID
   3. INSPECTION\_ITEM\_ID
   4. SUMMARY
8. SUBSYSTEM\_INTRODUCTION
   1. SUBSYSTEM\_INTRODUCTION\_ID
   2. SUB\_AUTOINTRO
   3. SUB\_INTRO\_COMMENT
9. INSPECTION\_ITEM
   1. INSPECTION\_ITEM\_STATUS
   2. MATERIAL
   3. FLAG\_STATUS
   4. INSPECTION\_ITEM\_COMMENT
10. INSPECTION\_STATUS
    1. INSPECTION\_STATUS\_ID
    2. INSPECT\_STATUS
11. MATERIAL
    1. MATERIAL\_ID
    2. MATERIAL\_NAME
12. INSPECTION\_FLAG\_STATUS
    1. INSPECTION\_FLAG\_STATUS\_ID
    2. FLAG\_STATUS
13. INSPECTION\_COMMENT
    1. INSPECTION\_COMMENT\_ID
    2. INSPECTION\_COMMENT
14. SUBSYSTEM\_SUMMARY
    1. SUBSYSTEM\_SUMMARY\_ID
    2. SUB\_SUM\_COMMENT

Description of relationships