Eggshell Home Builder (Final Project)

Entity Description Document

**Advanced Database Management:** December 9, 2013

(Group 3)

Gummoe, Benjamin

Malavia, Sonal

Shaw, Katarina

Zhai, Xuefeng

Table of Contents

[1. Employee 2](#_Toc374326842)

[2. Project\_Manager 2](#_Toc374326843)

[3. Crew\_Manager 2](#_Toc374326844)

[4. Construction\_Worker 2](#_Toc374326845)

[5. Sales\_Agent 3](#_Toc374326846)

[6. House\_Sales\_Agent 3](#_Toc374326847)

[7. Application\_User 3](#_Toc374326848)

[8. Customer 3](#_Toc374326849)

[9. Customer\_Contract 3](#_Toc374326850)

[10. Sale 3](#_Toc374326851)

[11. Contract 3](#_Toc374326852)

[12. Disclosure\_Form 4](#_Toc374326853)

[13. Subdivision\_Agreement 4](#_Toc374326854)

[14. House 4](#_Toc374326855)

[15. House\_Layout 4](#_Toc374326856)

[16. Floor 4](#_Toc374326857)

[17. Room\_on\_a\_Floor 4](#_Toc374326858)

[18. Room 4](#_Toc374326859)

[19. Lot 5](#_Toc374326860)

[20. Subdivision 5](#_Toc374326861)

[21. Subdivision\_Allowable\_Style 5](#_Toc374326862)

[22. Style 5](#_Toc374326863)

[23. Style\_Elevation 5](#_Toc374326864)

[24. Elevation 5](#_Toc374326865)

[25. School\_District 6](#_Toc374326866)

[26. School 6](#_Toc374326867)

[27. Construction\_Project 6](#_Toc374326868)

[28. Crew 6](#_Toc374326869)

[29. Construction\_Worker\_Crew 6](#_Toc374326870)

[30. Construction\_Project\_Stage 6](#_Toc374326871)

[31. Stage 6](#_Toc374326872)

[32. Selected\_Stage\_Option 7](#_Toc374326873)

[33. Option\_Choice 7](#_Toc374326874)

[34. Task 7](#_Toc374326875)

[35. Task\_Update 7](#_Toc374326876)

# Employee

**Description:** This entity stores all relevant information for each employee that works for Eggshell Home Builder.

**Occurrence:** Any employee may also be a project manager, crew manager, construction worker, or sales agent, but it is not necessary that they are one of these four employee types. These employee types exist as separate specialization entities. An employee may be an application user, manage a construction project, manage a crew, be assigned to a construction crew, confirm a sale, manage a construction task, or manage a house for sale.

# Project\_Manager

**Description:** This entity stores specialized employees who manage projects for Eggshell Home Builder. Project managers manage constructions projects and provide task updates on the construction project.

**Occurrence:** A project manager may be assigned as the project manager of a construction project and make task updates.

# Crew\_Manager

**Description:** This entity stores specialized employees who manage construction crews for Eggshell Home Builder.

**Occurrence:** A crew manager may be assigned as the crew manager for a construction crew.

# Construction\_Worker

**Description:** This entity stores specialized employees who are assigned to construction crews.

**Occurrence:** A construction worker is assigned to a construction worker crew.

# Sales\_Agent

**Description:** This entity stores specialized employees who are assigned to be house sales agent for Eggshell Home Builder. They also complete sales of homes.

**Occurrence:** A sales agent is assigned to be a house sales agent for many homes. When a sale for a home is completed, the sales agent also records that sale in the sale entity.

# House\_Sales\_Agent

**Description:** This entity is used to relate a specific sales agent to a specific house that is available for sale.

**Occurrence:** Each entry in House Sales Agent corresponds to a specific house and sales agent. A sales agent may have multiple House Sales Agent records or none at all. A house need not have a House Sales Agent record.

# Application\_User

**Description:** This entity stores the application user information so that they can log into the application system built atop the database. It stores usernames, passwords, recovery questions and answers, email address, etc.

**Occurrence:** Each application user record corresponds to either an employee or customer record.

# Customer

**Description:** This entity stores people who have purchased a home from Eggshell Home Builder.

**Occurrence:** Each customer record corresponds to a purchaser of a house. Each customer is related to an application user and a customer contract.

# Customer\_Contract

**Description:** This entity is used to relate a customer to a customer contract, as a customer may have multiple contracts over time.

**Occurrence:** Each customer contract corresponds to one customer record and one contract record. There may be multiple entries in this entity for a given customer, but there should only be one for each contract.

# Sale

**Description:** This entity is used to record the sales of a house to a customer.

**Occurrence:** Each Sale record relates to Sales Agent, who oversees the sale of the house, and a house. A Sales Agent need not be related to a Sale, nor must a House.

# Contract

**Description:** This entity is used to store the core contractual information for when a customer purchases a home.

**Occurrence:** Each Contract record relates to a specific customer\_contract record, may relate to a specific subdivision agreement, may relate to a specific disclosure form, and does relate to a specific house.

# Disclosure\_Form

**Description:** This entity is used to store additional contractual information for when a customer purchases a home.

**Occurrence:** Each Disclosure Form entry relates to a specific contract record.

# Subdivision\_Agreement

**Description:**This entity is used to store additional contractual information for when a customer purchases a home. This information is specific to additional subdivision requirements in which the purchased home is located.

**Occurrence:** Each subdivision agreement entry relates to a specific contract record.

# House

**Description:** This entity is used to store core information about a house.

**Occurrence:** Each house entry relates to a lot record, one or many floor records, a house layout record, and may relate to a sale record if the house has been sold.

# House\_Layout

**Description:** This entity is a code table that identifies a house style and whether or not that house style is reversed for a given house.

**Occurrence:** Because this is a code table, each House Layout entry relates to none or multiple house records. A House Layout entry may also relate to itself, to indicate which house style it is a reverse version of.

# Floor

**Description:** This entity is used to relate a House record to a Room on a Floor record.

**Occurrence:** Each Floor record may or may not have a corresponding Room on a Floor record. Each Floor record must have a corresponding House record.

# Room\_on\_a\_Floor

**Description:** This entity is used to relate a Room record to a Floor record. It stores the various attributes that a room may have.

**Occurrence:** Each Room on a Floor record must correspond to both a Floor record and a Room record. There may be multiple Room on a Floor records for each Floor record.

# Room

**Description:** This entity is a code table that identifies a room type that a floor might have.

**Occurrence:** Because this is a code table, each Room entry may or may not correspond to a given Room on a Floor record, but each Room on a Floor record must correspond to a Room record.

# Lot

**Description:** This entity stores the physical location information that a House might be built on. It contains address information, the style of the home, subdivision information, etc.

**Occurrence:** Each Lot entry must correspond to a Subdivision record, a Style Elevation record, and may or may not relate to a House record depending on whether or not a house has been built on the lot.

# Subdivision

**Description:** This entity stores the subdivisions that Eggshell Home Builder builds homes in. Each Subdivision record contains relevant geographic location information.

**Occurrence:** A subdivision record may or may not relate to a a Lot record (depending on whether or not a Lot has been purchased by Eggshell Home builder), and must relate to a School District entity record.

# Subdivision\_Allowable\_Style

**Description:** This entity is used to relate a Subdivision record to the home styles that are allowed within a given Subdivision.

**Occurrence:** For every Subdivision Allowable Style record, there must be a corresponding Subdivision. Each Subdivision, however, may have multiple Subdivision Allowable Style records. Each Subdivision Allowable Style record relates to only one Style record.

# Style

**Description:** This entity exists as a code table that identifies a house style that may be allowed in a Subdivision.

**Occurrence:** Because it is a code table, each Style entry may or may not correspond to any Subdivision Allowable Style records, but every Subdivision Allowable Style record must correspond to a Style record

# Style\_Elevation

**Description:** This entity is used to relate Style records to Elevation records.

**Occurrence:** Each Style Elevation record must correspond to both a Style record and an Elevation record. There may be multiple Style Elevation records for each Style record.

# Elevation

**Description:** This entity exists as a code table that identifies the elevations that a house style might have.

**Occurrence:** Because it is a code table, each Elevation entry may or may not correspond to any Style Elevation records, but every Style Elevation record must correspond to an Elevation record.

# School\_District

**Description:** This entity is used to track the school districts that a Subdivision may be within.

**Occurrence:** Each School District record may relate to multiple Subdivision records, but only one Subdivision record will relate to any given School District record.

# School

**Description:** This entity is used to track the schools that exist within a given School District.

**Occurrence:** Each School record must relate to a specific School District record, but it is possible for a School District to not have any corresponding School records (for example, if it is a new district or that data has not been recorded yet).

# Construction\_Project

**Description:** This entity is used to track the core information related to the construction of a House on a Lot. It contains relevant fields such as start date, end date, the project manager, etc.

**Occurrence:** Each Construction Project record relates to a project manager, may have related Construction Project Stage record, must relate to a specific house, and may not may not have a crew associated with it at a given time.

# Crew

**Description:** This entity is used to relate Construction Project records to Construction Worker Crew records. It stores the manager of a crew with each record.

**Occurrence:** Each Crew record must relate to a Construction Worker Crew and may have a relationship with a Construction Project.

# Construction\_Worker\_Crew

**Description:** This entity is used to store information about a specific construction worker and their membership on a crew. It contains their start and end date as well as the crew membership.

**Occurrence:** Each Construction Worker Crew record relates to a Construction Worker and a Crew.

# Construction\_Project\_Stage

**Description:** This entity is used to store construction project information on a stage-by-stage degree of granularity.

**Occurrence:** For each Construction Project record, there will be no more than 7 Construction Project Stage records because there are no more than 7 construction stages. Each Construction Project Stage record refers to a Stage record and may have many Selected Stage Option records related to it.

# Stage

**Description:** This entity exists as a code table that identifies the stages that a Construction Project Stage record might have. This entity also exists as a code table that identifies the associated Stage for an Option that a customer might choose for their house.

**Occurrence:** Because it is a code table, each Stage entry may or may not correspond to any Construction Project Stage records, but every Construction Project Stage record must correspond to an Stage record. This same relationship quality exists between the Stage entity and Open Choice entity.

# Selected\_Stage\_Option

**Description:** This entity is used to relate a Construction Project Stage to an Option Choice. It consists of all of the option choices made by customers for the specific stages of their house.

**Occurrence:** Each Selected Stage Option relates to a Construction Project Stage record and an Option Choice record. There may be many Selected Stage Option records for each Construction Project Stage record, but each Selected Stage Option record only relates to one Construction Project Stage record. Selected Stage Option records may also relate to Task records.

# Option\_Choice

**Description:** This entity stores the total list of options that might be selected by a customer for their home. It includes information such as price, option category, etc.

**Occurrence:** Each Option Choice relates to a specific Stage record code and may or may not have a corresponding record in the Selected Stage Option entity.

# Task

**Description:** This entity stores Task records that are associated with a given Selected Stage Option so that Project Managers can track the completion of each option that has been selected by a customer.

**Occurrence:** Each Task record necessarily corresponds to a Selected Stage Option record. Each Task record may or may not have many Task Update records associated with it as progress is made on the task.

# Task\_Update

**Description:** This entity stores progress updates on Tasks that are associated with Selected Stage Options. A Project Manager makes Task Update records so that they can track the progress status of each task.

**Occurrence:** Each Task Update record corresponds to to a Task. A Task may have multiple Task Update records associated with it.