GREEN TEAM

Aaron Pramana • Eric Tran • Josephine Suen • Scott Lam • Tim Mendez

CHANGE LOG

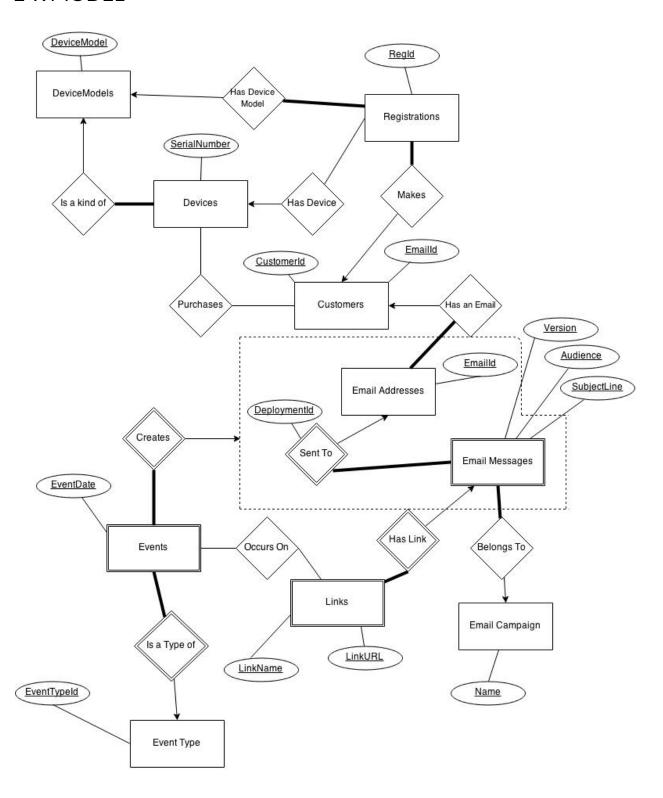|		
05-04-15	E-R Model	— Changed E-R model to reflect one-to-many relationship between Events and SentTo
	Database Model	— Changed EmailID from VARCHAR to INT
		— Added DeploymentID to EmailMessages
		— Changed CustomerID to INT in Registrations
		— Changed primary key of Events from EventDate to EventTypeID, EmailID, Version, DeploymentID, SubjectLine
		— Added primary keys of aggregation to Events b/c weak
		— Removed LinkURL, LinkName from Events
		— Added primary keys of EmailMessages to Links b/c weak
		— Changed ZIP from INT to CHAR(5)
		— Created new lookup table for Events and Links b/c many-to-many
		— Changed IncomeLevel from INT to VARCHAR(16) b/c string not integer
		— Changed Language from VARCHAR(64) to CHAR(2) b/c represented with 2 characters
		— Changed CustomerTier from VARCHAR(64) to CHAR(3) b/c is only Mid, Top, VIP, or empty
		— Removed Campaign Table and moved its contents to EmailMessages b/c only 1 column
		— Added auto increment id to EmailMessages and revised all other tables that referenced it to include new id
04-24-15	E-R Model	— Moved Audience, Version, and SubjectLine from EmailCampaigns to EmailMessages
		— Changed Events to weak entity set
		— Added Links weak entity set
		— Added HasLink relationship set
		— Changed HasA to HasEmail
		— Added HasDeviceModel relationship set
		— Changed Contains to HasDevice
		— Added participation requirements to description of relationship sets

E-R MODEL

ENTITY SETS

EmailCampaigns
- ● <u>String CampaignName</u>

EmailMessages
Weak entity set
Version, Audience, SubjectLine are pseudo ID
- ● <u>String Version</u>
- ● <u>String Audience</u>
- ● <u>String SubjectLine</u>

Events
Weak entity set
EventDate is pseudo ID
- ● <u>Timestamp EventDate</u>

Links
Weak entity set
LinkName, LinkURI are pseudo ID
- ● <u>String LinkName</u>
- ● <u>String LinkURL</u>

EventTypes
- ● <u>Int EventTypeID</u>
- ● String EventTypeName

Devices
- ● <u>String SerialNumber</u>

DeviceModels
- ● <u>String DeviceModel</u>
- ● String DeviceType
- ● String DeviceName
- ● String Carrier

Customers
- ● <u>Int CustomerID</u>
- ● Int ZIP
- ● String State
- ● String Gender
- ● String IncomeLevel

- ● Boolean Permission
- ● String Language
- ● String CustomerTier
- ● Int NumberOfRegistrations

EmailAddresses
- ● <u>String EmailID</u>
- ● String EmailDomain

Registrations
Date RegistrationDate
<u>Int RegistrationID</u>
Int RegistrationSourceID
String RegistrationSourceName
String DeviceModel

RELATIONSHIP SETS

BelongsTo (EmailMessage, EmailCampaign)
Many-to-one relationship
Identifying relationship for EmailMessage
Required for EmailMessage

SentTo (EmailMessage, EmailAddress)
Many-to-one relationship
Identifying relationship for EmailMessage
Required for EmailMessage
- ● <u>Int DeploymentId</u>
- ● Timestamp DeploymentDate

HasLink (EmailMessage, Link)
Many-to-one relationship
Identifying relationship for Link
Required for Link

IsTypeOf (Event, EventType)
- ● *Many-to-one relationship*
- ● *Identifying relationship for Event*
- ● *Required for Event*

HasEmail (Customer, EmailAddress)
One-to-many relationship
Required for EmailAddress

Purchases (Customer, Devices)

Many-to-many relationship
- Date Purchase Date
- String Purchase Store Name
- String Purchase Store State
- String Purchase Store City
- Boolean Ecomm Flag

Makes (Customer, Registration)

One-to-many relationship
Required for Registration

HasDeviceModel (Registration, DeviceModel)

Many-to-one relationship
Required for Registration

HasDevice (Registration, Device)

Many-to-one relationship

IsKindOf (Device, DeviceModel)

Many-to-one relationship
Required for Device

AGGREGATIONS

Creates (SentTo, Event)

Many-to-one relationship
Identifying relationship for Event
Required for Event

DATABASE MODEL

Customers
- primary key int CustomerID
- int RegSourceID
- varchar RegSourceName
- char ZIP
- char State
- char Gender
- varchar IncomeLevel
- boolean Permission
- charLanguage

EmailAddresses
- primary key int EmailID
- varchar EmailDomain NOT NULL
- int CustomerID NOT NULL
- foreign key CustomerID references Customers(CustomerID)

EmailMessages
- primary key bigint EmailMessageID AUTO_INCREMENT
- varchar Audience NOT NULL
- varchar Version NOT NULL
- varchar SubjectLine NOT NULL
- int EmailID NOT NULL
- int DeploymentID NOT NULL
- varchar CampaignName NOT NULL
- foreign key EmailID references EmailAddresses(EmailID)

EventTypes
- primary key int EventTypeID
- varchar EventTypeName

Events
- primary key (EmailID, EmailMessageID, EventTypeID)
- datetime EventDate NOT NULL
- int EventTypeId NOT NULL
- int EmailID
- bigint EmailMessageID
- foreign key EventTypeID references EventTypes(EventTypeID)
- foreign key EmailID references EmailAddresses(EmailID)
- foreign key EmailMessageID references EmailMessages(EmailMessageID)

Links
- primary key (LinkName, LinkURL, EmailMessageID)
- varchar LinkName
- varchar LinkURL
- bigint EmailMessageID
- foreign key EmailMessageID references EmailMessages(EmailMessageID)

EventLinkLookUp
- primary key (EmailID, EmailMessageID, EventTypeID, LinkName, LinkURL)
- varchar LinkName
- varchar LinkURL
- bigint EmailMessageID
- int EmailID
- int EventTypeID
- foreign key EmailID references EmailAddresses(EmailID)
- foreign key EmailMessageID references EmailMessages(EmailMessageID)
- foreign key (LinkName, LinkURL) references Links(LinkName, LinkURL)
- foreign key EventTypeID references EventTypes(EventTypeID)

DeviceModels
- primary key varchar DeviceModel
- varchar DeviceName
- varchar DeviceType
- varchar Carrier

Devices
- primary key varchar SerialNumber
- varchar DeviceModel NOT NULL
- foreign key DeviceModel references DeviceModels(DeviceModel)

Purchases
- primary key (CustomerID, DeviceModel)
- datetime PurchaseDate
- varchar PurchaseStoreName
- varchar PurchaseStoreCity
- char PurchaseStoreState
- boolean ECommFlag
- int CustomerID
- varchar SerialNumber
- varchar DeviceModel NOT NULL
- foreign key CustomerID references Customers(CustomerID)
- foreign key SerialNumber references Devices(SerialNumber)

- foreign key DeviceModel references DeviceModels(DeviceModel)

Registrations
- <u>primary key date RegistrationDate</u>
- int RegistrationID
- int RegistrationSourceID
- varchar RegistrationSourceName
- varchar DeviceModel NOT NULL
- int CustomerID
- varchar SerialNumber
- foreign key CustomerID references Customers(CustomerID)
- foreign key SerialNumber references Devices(SerialNumber)
- foreign key DeviceModel references DeviceModels(DeviceModel)