

Project Step 6

URL: <http://flip2.engr.oregonstate.edu:3023/index> (must be on Oregon State network to access)

Executive Summary of Changes:

We made changes to several elements of our project between steps based on feedback we received and our own design ideas. Our entities and overall schema remained fairly consistent throughout the project, and the only major changes were based on our own design ideas. We added the Methods table a little later than all of our other tables, and we briefly incorporated a DateDimension table before removing it for the sake of simplicity.

We also added and removed attributes many times during the project. Based on feedback we added `is_successful` and `length_in_minutes` to the Channelings entity to enable it to record more specific information. We also initially had Mediums, Spirits, and Attendees with attributes `first_name` and `last_name`, but we realized issues arise for names such as "King Henry VIII." We then changed the name attributes to `name_prefix`, `first_name`, `last_name`, `name_suffix`, and generated `full_name` in our SQL with the concatenation of all of the name attributes. However, we realized that this solution was cumbersome for users entering and interacting with these entities and decided to simply use a single attribute `full_name`.

We made many changes to our DML while we were building the website. Our original DML was a robust set of queries for interacting with our database, but occasionally we found that we would prefer different sets of attributes to be SELECTed to tailor the information to the purpose we are trying to achieve. Our website has many dropdown menus, and we had to write some rather specific queries to populate them correctly.

Our website UI evolved considerably over the course of the project as well. For each entity, we initially had a table displaying information and forms for editing and inserting an entity below it. We decided to integrate these forms into the table and enable users to edit an entry in the row it is in and insert . We had the new design implemented for one of our tables initially, and after positive peer feedback we modified the rest of our tables with the new design.

We received a great deal of peer feedback that we decided to not act on due to our own design convictions. Some of our peers noted that there are similarities between our Mediums, Spirits, and Attendees table and suggested merging them into a single table. We did not think this was a good idea, as we believe these entities are different enough that consolidation would cause issues if we attempt to add new columns or functionality that depends on the specific nature of each entity. For instance, if we add an attribute `hourly_rate` to Mediums, it would not apply to Spirits and Attendees. So in the interest of not getting into technical debt, we kept these entities separate.

Overview

Speaking with the dead is a common practice in hobbyist circles, but it is an untapped industry. Our company, Data Seyance, exists to bring together spirits that have crossed over with living humans that yearn to contact them. Data Seyance vets and maintains a network of talented mediums that allow this cross realm interaction to take place.

To serve the needs of our patrons, Data Seyance needs a relational database that tracks our 200 annual seances and the channelings that occur at each seance. We have an average of 3.2 channelings (contact with a specific individual spirit) at each seance and it is important to track which mediums have successfully channeled which spirits. Of course, not just any venue can host a seance, so we also maintain a list of 20 locations which have hosted our events.

With our database and associated web user interface, seance enthusiasts can discover which spirits were channeled by our talented mediums. They can also find out the venues these channelings took place in and the date of the channeling, as well as much more information. Our data can also potentially be used for analytics purposes, although such functionality is pending until we receive our next round of venture capital. For instance, if a particular medium has a high success rate at channeling an in-demand spirit, we may prioritize booking the medium for one of our flagship seances.

Database Outline

Spirits: records the details of summonable Spirits, which can be Channeled by Mediums. Each record is a single Spirit.

- spirit_id INT, auto_increment, unique, not NULL, PK
- full_name VARCHAR
- 1:M relationship between Spirits and Channelings is implemented with spirit_id as a FK inside of Channelings

Mediums: records the details of Mediums that perform Channelings of Spirits.

- medium_id INT, auto_increment, unique, not NULL, PK
- full_name VARCHAR
- 1:M relationship between Mediums and Channelings is implemented with medium_id as a FK inside of Channelings

Locations: records the details of Locations that host Seances. A Location represents a place that has the capacity to host Seances. A Location can be added without having hosted a Seance yet.

- location_id INT, auto_increment, unique, not NULL, PK
- name VARCHAR
- street_address VARCHAR

- city VARCHAR
 - zip VARCHAR
 - state VARCHAR
 - country VARCHAR
-
- 1:M relationship between Locations and Seances is implemented with seance_id as a FK inside of Locations

Seances : records the details of Seances that are conducted. Multiple Channelings can occur at a Seance. Each record represents a single Seance. These records act as header records (using the header/detail design pattern) for the Channelings tables, which would contain the detail level information.

- seance_id INT, auto_increment, unique, not NULL, PK
 - date DATE
 - location_id INT, FK (Locations)
-
- 1:M relationship between Seances and Channelings is implemented with seance_id as a FK inside of Channelings
 - M:1 relationship between Seances and Locations is implemented with location_id as a FK inside of Seances
 - M:M relationship between Seances and Attendees is implemented with seance_id and attendee_id as FKs in intersection table SeanceAttendees. Therefore, Seances has a M:1 relationship to SeanceAttendees implemented with seance_id as a FK inside SeanceAttendees.

Channelings: records the details of Channelings that occurred at each Seance. Each Channeling involves a Medium channeling a Spirit and takes place at a Seance. There can be multiple Chanellings per Seance.

- channeling_id INT, auto_increment, unique, not NULL, PK
 - medium_id INT, FK (Mediums)
 - seance_id INT, FK (Seances)
 - spirit_id INT, FK (Spirits)
 - method_id INT, FK(Methods)
 - is_successful TINYINT Default 0
 - length_in_minutes INT
-
- M:1 relationship between Channelings and Spirits is implemented with spirit_id as a FK inside of Channelings
 - M:1 relationship between Channelings and Mediums is implemented with medium_id as a FK inside of Channelings

- M:1 relationship between Channelings and Seances is implemented with seance_id as a FK inside of Channelings
- M:1 relationship between Channelings and Methods is implemented with method_id as a FK inside of Channelings

Methods: category table that contains various descriptions of various ways to Channel Spirits. This table provides information about the Methods used during Channelings, which are referenced using keys in the Channelings table.

- method_id INT, auto_increment, unique, not NULL, PK
- name VARCHAR
- description VARCHAR
- 1:M relationship between Methods and Channelings is implemented with method_id as a FK inside of Channelings

Attendees: records information about non-Medium Seance Attendees. These Attendees are individuals that attend Seances as spectators, not as Mediums.

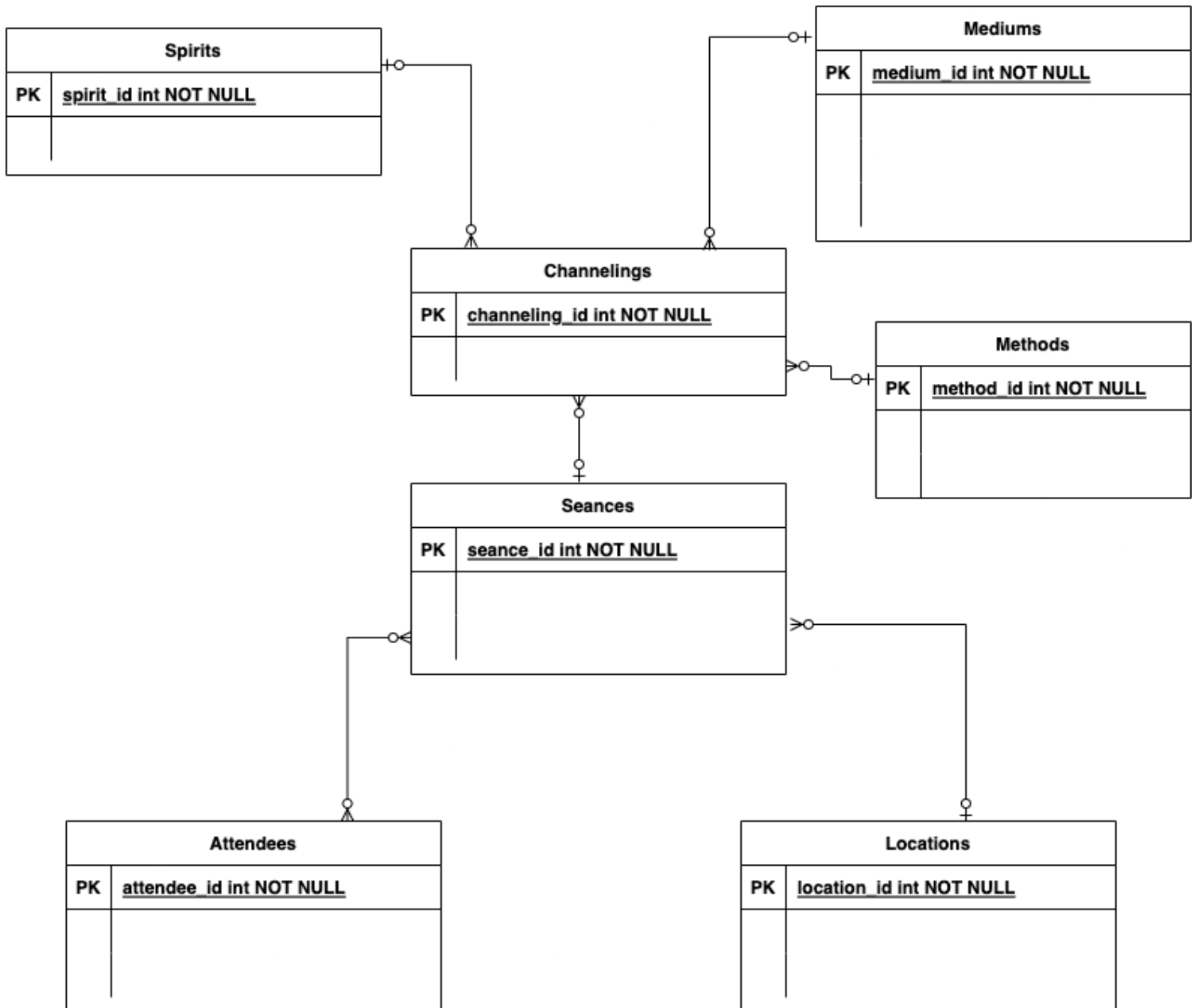
- attendee_id INT, auto_increment, unique, not NULL, PK
- full_name VARCHAR
- M:M relationship between Seances and Attendees is implemented with seance_id and attendee_id as FKs in intersection table SeanceAttendees. Therefore, Attendees has a M:1 relationship to SeanceAttendees implemented with attendee_id as a FK inside SeanceAttendees.

(Intersection Table)

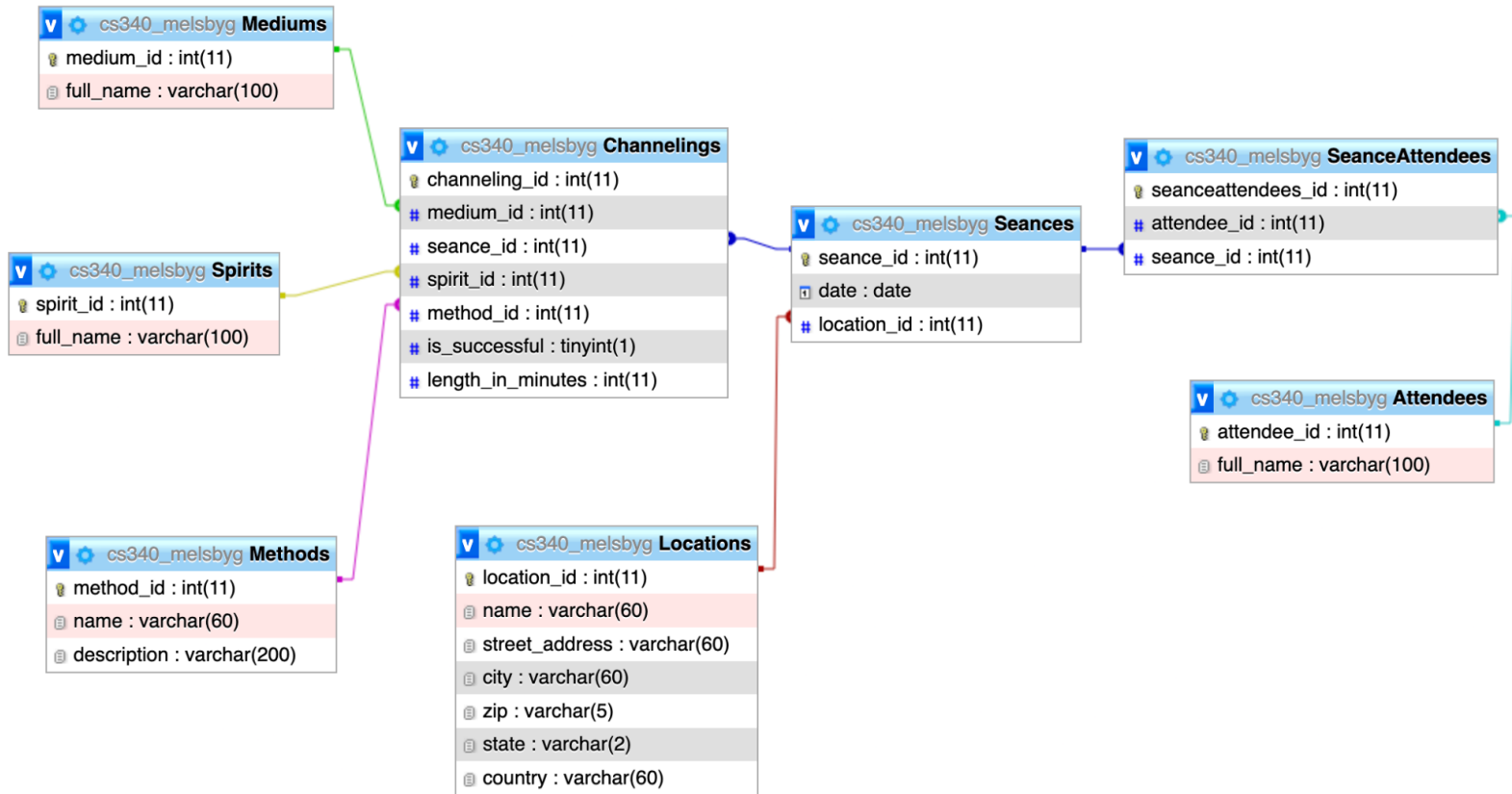
SeanceAttendees: serves as an intersection table to facilitate the M:M relationship between Seances and Attendees. Because attendee_id can be made NULL by deleting an Attendee, we need a seanceattendees_id as the primary key for this table.

- seanceattendees_id INT, auto_increment, unique, not NULL, PK
- attendee_id INT, FK(Attendees)
- seance_id INT, FK(Seances)
- Relationship: facilitates M:M relationship between Seances and Attendees.
- Therefore, SeanceAttendees has a 1:M relationship with Seances and 1:M relationship with Attendees, where FKs of both are in SeanceAttendees.

Entity-Relationship Diagram



Schema



Sample Data

Mediums

medium_id	full_name
1	Arthur Ford
2	Andrew Jackson Davis
3	Leah Fox
4	Kate Fox
5	Maggie Fox
6	Edgar Cayce

Spirits

spirit_id	full_name
1	Black Hawk
2	Harry Houdini
3	Bartholomew Governor of the House of Strangers
4	Benjamin Franklin
5	Estelle Livermore

Methods

method_id	name	description
1	Spirit Board	Medium asks questions of the spirit and the spirit guides their hand over a board of letters and symbols
2	Cabinets	Medium is placed into a cabinet and the spirit manipulates objects in the room
3	Trance	Medium goes into a trance and delivers messages from the summoned spirit. Medium may or may not remember the messages once they wake.

Locations

location_id	name	street_address	city	zip	state	country
1	Barnum's Hotel	170 Broadway	New York	10007	NY	US
2	Beachland Ballroom & Tavern	15711 Waterloo Rd	Cleveland	44110	OH	US
3	Hollywood Knickerbocker Hotel	1714 Ivar Ave	Hollywood	90028	CA	US
4	Edgar Cayce's - Houston A.R.E. Center	7800 Amelia Road	Houston	77055	TX	US
5	Alister Hardy Religious Experience Research Centre	College St	Lampeter	NULL	NULL	United Kingdom

Attendees

attendee_id	full_name
1	Bess Houdini
2	Sir Arthur Conan Doyle
3	Hilma Klimt
4	Alexander Graham Bell
5	Maggie Fox
6	William T. Stead

Seances

seance_id	date	location_id
1	1943-10-31	3
2	1927-04-12	5
3	1854-03-31	1
4	1920-08-26	4
5	1857-11-21	NULL
6	1857-11-21	4

Channelings

channeling_id	medium_id	seance_id	spirit_id	method_id	is_successful	length_in_minutes
1	1	1	2	1	1	31
2	4	5	1	2	1	17
3	6	4	4	3	1	81
4	6	5	2	3	0	81

SeanceAttendees

seanceattendees_id	attendee_id	seance_id
1	2	4
2	3	4
3	5	5
4	5	4
5	NULL	1



Menu to
navigate to
CRUD
pages.

This is the index page of the Data
Seyance website. From here we navigate
to other pages to perform CRUD
operations.

Welcome to Data Seyance

Please use the menu at the top to access pages where you can Create, Read, Update or Delete our records.




- photo from: [Wikimedia Commons](#)

Seance Page

For Creating (1), Reading (2), Update(3) or Deleting(4) **Seance** records.

1. Completing the input fields and clicking insert creates a new record.
2. The table itself reads and displays existing seance records when a page is accessed and when any CRUD operation takes place.
3. Clicking the update button changes the row to an update form. Fields default to existing values but can be updated. The updates are written back to the database if save is clicked.
4. Clicking Delete will delete the record from the database and reload the data displayed on the screen.
5. The Attendees button will take the user to the Attendees page and filter for the seance on the record.
6. The Channelings button will take the user to the Channelings page and filter for the seance on the record.


 DataSeance Seances Locations Channelings Spirits Attendees Mediums Methods Seance Attendee Lists

Seances

seance_id	Date	Location Name	Update	Delete	Attendees	Channelings
3	1854-03-31	Barnum's Hotel	<button>Update</button>	<button>Delete</button>	<button>Attendees</button>	<button>Channelings</button>
4	1920-08-26	Edgar Cayce's - Houston A.R.E. Center	<button>Update</button>	<button>Delete</button>	<button>Attendees</button>	<button>Channelings</button>
6	<input type="text" value="11 / 22 / 1857"/>	<input type="text" value="Hollywood Knickerbocker Hotel location_id: 3"/>	<input type="button" value="Save"/>	<input type="button" value="Cancel"/>		
Insert New Seance	<input type="text" value="mm / dd / yyyy"/>	<input type="text" value="Select Location"/>	<input type="button" value="Insert Seance"/>			

Locations Page

For Creating (1), Reading (2), Update(3) or Deleting(4) **Locations** records.

 DataSeance


[Seances](#) [Locations](#) [Channelings](#) [Spirits](#) [Attendees](#) [Mediums](#) [Methods](#) [Seance Attendee Lists](#)

Locations

location_id	Name	Address	2	City	Zip	State	Country	Update	4	Delete
1	Barnum's Hotel	170 Broadway		New York	10007	NY	US	<button>Update</button>		<button>Delete</button>
2	Beachland Ballroom & Tavern	15711 Waterloo Rd		Cleveland	44110	OH	US	<button>Update</button>		<button>Delete</button>
3	Hollywood Knickerbocker Hotel	1714 Ivar Ave		Hollywood	90028	CA	US	<button>Update</button>		<button>Delete</button>
4	<input type="text" value="Edgar Cayce's - Houston A.I"/>	<input type="text" value="7800 Amelia Road"/>		<input type="text" value="Houston"/>	<input type="text" value="77055"/>	<input type="text" value="TX"/>	<input type="text" value="US"/>	3 <button>Save</button>		<button>Cancel</button>
Insert New Location	<input type="text" value="Name"/>	<input type="text" value="Address"/>		<input type="text" value="City"/>	<input type="text" value="Zip (12345)"/>	<input type="text" value="State (AB)"/>	<input type="text" value="Country"/>	1 <button>Insert Location</button>		

Channelings Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Channelings** records. (Users can also filter to see channelings at specific seances (5))

 DataSeance

SeancesLocationsChannelingsSpiritsAttendeesMediumsMethodsSeance Attendee Lists

Filter5


Choose a seance to view channelings for:

Channelings from All Seances

channeling_id	Medium	Spirit	Method	Date	Location	Successful	Length (Minutes)	Update	Delete
1	Arthur Ford	Harry Houdini	Spirit Board	None	None	Yes	31	<div>Update</div>	<div>Delete</div>
2	Kate Fox	Black Hawk	Cabinets	1854-03-31	Barnum's Hotel	Yes	17	<div>Update</div>	<div>Delete</div>
10	Arthur Ford	Black Hawk	Cabinets	1920-08-26	Edgar Cayce's - Houston A.R.E. Center	Yes	44	<div>Update</div>	<div>Delete</div>
11	Kate Fox	Black Hawk	Spirit Board	None	None	Yes	77	<div>Update</div>	<div>Delete</div>
12	<div>Maggie Fox medium_i</div>	<div>Batholomew Governor</div>	<div>Cabinets method_id:</div>	<div>1854-03-31 at Barnum's Hotel seance_id: 3</div>	<div>Yes</div>	<div>2</div>	<div>Save</div>	<div>Cancel</div>	
Insert Channeling	<div></div>	<div></div>	<div></div>	<div></div>	<div>No</div>	<div></div>	<div>Insert Channeling</div>		

Spirits Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Spirits** records.

 DataSeyance


[Seances](#) [Locations](#) [Channelings](#) [Spirits](#) [Attendees](#) [Mediums](#) [Methods](#) [Seance Attendee Lists](#)

Spirits

spirit_id	Full Name	Update	4 Delete
1	Black Hawk	Update	Delete
2	Harry Houdini	Update	Delete
3	Batholomew Governor of the House of Strangers	Update	Delete
4	Benjamin Franklin	Update	Delete
5	<div>Estelle Livermore</div>	Save	Cancel
Insert New Spirit	<div></div>	Insert Spirit	

Attendees Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Attendees** records.

 DataSeyance Seances Locations Channelings Spirits Attendees Mediums Methods Seance Attendee Lists

Attendees


attendee_id	Full Name	Update	4 Delete
9	Jim from accounting	<input type="button" value="Update"/>	<input type="button" value="Delete"/>
11	<input type="text" value="Will I or Wont I"/>	<input type="button" value="3 Save"/>	<input type="button" value="Cancel"/>

Insert New Attendee

Has this attendee already attended a seance? If so, select it.

Mediums Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Mediums** records.

 DataSeyance


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Mediums

medium_id	Full Name	Update	4 delete
1	Arthur Ford	<div>Update</div>	<div>Delete</div>
2	Andrew Jackson Davis	<div>Update</div>	<div>Delete</div>
3	Leah Fox	<div>Update</div>	<div>Delete</div>
4	Kate Fox	<div>Update</div>	<div>Delete</div>
5	<div>Maggie Fox</div>	<div>3 Save</div>	<div>Cancel</div>
Insert New Medium	<div>1</div>	<div>Insert Medium</div>	

Methods Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Methods** records.

 DataSeance


SeancesLocationsChannelingsSpiritsAttendeesMediumsMethodsSeance Attendee Lists

Methods

method_id	Name	Description	Update	4 Delete
1	Spirit Board	Medium asks questions of the spirit and the spirit guides their hand over a board of letters and symbols	Update	Delete
2	Cabinets	Medium is placed into a cabinet and the spirit manipulates objects in the room	Update	Delete
3	<input type="text" value="Trances"/>	<input type="text" value="Medium goes into a trance and delivers messages fric"/>	Save	Cancel
Insert New Method		<input type="text"/>	<input type="button" value="1 Insert Method"/>	

Seance Attendees Page

For Creating (1), Reading (2), Update (3) or Deleting (4) **Seance Attendees** records. (Users can also filter to see attendees of specific seances (5))

 DataSeance

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Filter

Choose a seance to view its attendees

Seance Attendees for all seances

seance_id	Date	Location	attendee_id	Attendee	Update	Delete
4	1920-08-26	Edgar Cayce's - Houston A.R.E. Center	11	Will I or Wont I	<div>Update</div>	<div>Delete</div>
4	1920-08-26	Edgar Cayce's - Houston A.R.E. Center	9	Jim from accounting	<div>Update</div>	<div>Delete</div>

1854-03-31 Barnum's Hotel | seance_id: 3

jim from accounting | attendee_id: 9

Save

Cancel

Insert Record

Select Seance

Select Attendee

Insert Attendance