

URL to index.html: <http://flip2.engr.oregonstate.edu:8042/>

CS340_400_W2020

GROUP 20: The Cartta Group

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Memory Palaces

Executive Summary:

When we first submitted our proposal, neither of us had any experience with database design or usage. As you can imagine, we ended up with quite a few changes from our initial proposal as we learned from instruction, feedback, and our own experiences manipulating the front and back-end of our database.

The first wave of changes to our design came from step 1, where the instructor gave us feedback on our model. We had to rethink the way we were going to set up the database. We combined the palaces and stories entities, due to the fact that they had a 1:1 relationship and could be represented as a description attribute within palaces. We removed rooms entirely and allowed the loci description to serve as rooms would have. Since we had condensed our model to 2 entities, we needed two more to meet the project requirements. As such, we decided that we would focus on memorizing numbers and use a person/action system with mnemonics to help the user remember the numbers. This added a chunks entity, to hold each 4 digit number, and a mnemonics entity, to hold the person/action associations for each 2 digit number.

The next wave of major changes came when we actually imported sample data into the database. We removed loci_order; since loci_id was an auto-incrementing attribute, we could simply sort by value and would never need another attribute to ensure specific order be maintained. The chunks entity had two attributes added, the first_chunk_value and second_chunk_value. Originally, we thought the chunk_id could hold these values but this restricted the scope of our database and would only allow a single unique 4 digit chunk for the entire database, not nearly sufficient for our needs. This is also when we learned about cascading functionality for our foreign keys since we wanted them to auto update on delete and updates.

Throughout the process of reviewing, our peers' feedback was most useful in regards to the user experience on the front-end. We tried to streamline the screen changes and added directions to our home page so the user could better grasp our concept without having to parse through the documentation.

Project Outline:

The world record for memorization of the digits of the number pi is 100,000 digits. How can such a feat be accomplished? Thru the memorization technique commonly referred to as Memory Palaces.

The idea of a memory palace is that you choose a location (the palace) that you are familiar with and place the numbers that need to be memorized in a predetermined path within that palace. These "locations" are called loci. The path should be logical, allowing for an ordered traversal, for example you may choose a path starting from the entrance of your house and repeatedly turning to your left for the next "location", like so: location one: entrance, two: living room, three: kitchen etc. More details about memory palaces can be found here:

https://en.wikipedia.org/wiki/Method_of_loci

Our webapp would create a tool for easily creating, editing and recalling memory palaces specific to number memorization. We will use a person-action number system to create mnemonics for every two digit combination from 00 to 99.

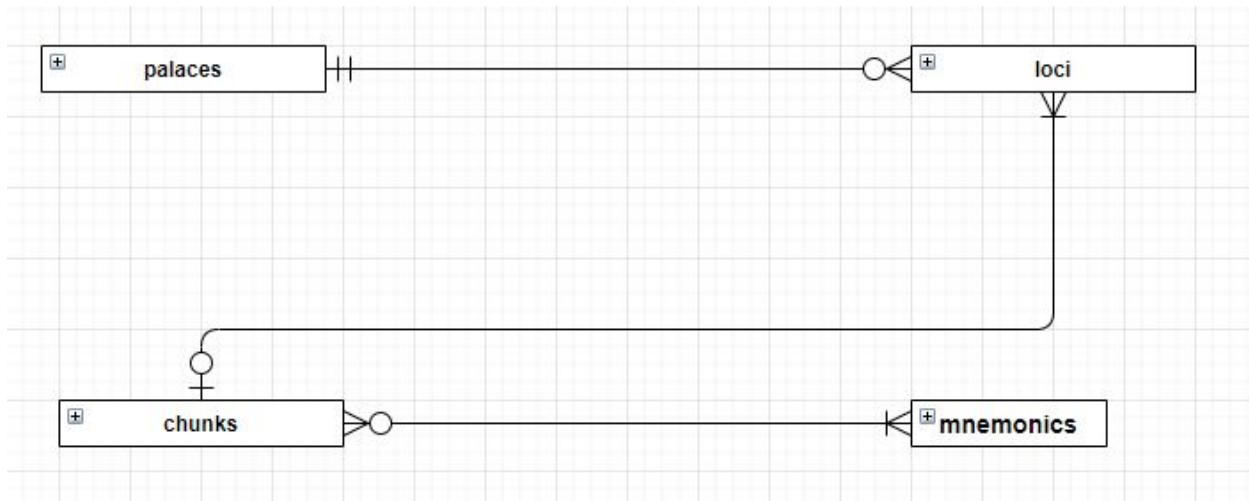
To begin using our website, you'll need to first decide on a set of numbers that you want to memorize. These could be family members' birth-years or the years that the Star Wars films were released in order of episode. Next, you'll create a palace, ideally using a location you are intimately familiar with to make "walking" through it a simple process. Then you'll fill the palace with loci. Each locus can hold between 1 and 4 digits, in 2 digits increments.

Once you have the loci created, it's time to add your own mnemonics to them. Try to assign people and actions that are easy for you to encision so that when you use the mnemonic, you can quickly see the person doing the action. Finally, it's time to practice. You'll want to memorize the mnemonics table so you can quickly recall any of the numbers with person and action. Once you've done this, walk through your palace, looking at each locus and envisioning the person/action that will inform you of the number you want to remember.

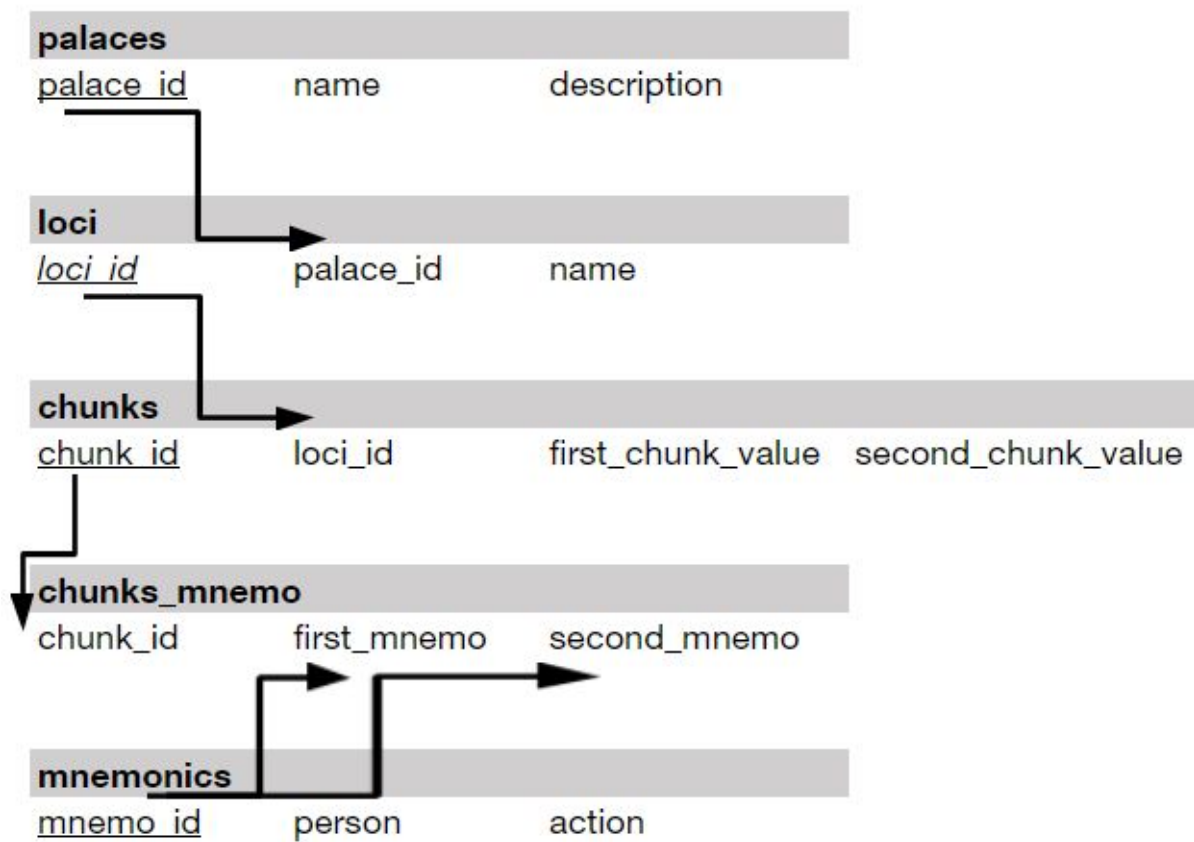
Database Outline

1. palaces: mental location for grouped memories
 - palace_id: int, auto_increment, unique, not NULL, PK
 - name: varchar, not NULL UNIQUE
 - Description: varchar
 - Relationship: 1:M relationship with Loci is implemented with palace_id in Loci as FK
2. loci: locations or items within the palaces that are associated with numbers to be remembered
 - loci_id: int, auto_increment, unique, not NULL, PK
 - palace_id: int, not NULL, FK
 - name: varchar, not NULL
 - Constraint loci_info UNIQUE (palace_id, name)
 - Relationship: 1:M relationship with Chunks is implemented with locus_id in Chunks as FK
 - Relationship: M:1 with Palaces, described in Palaces outline
3. chunks: numbers associated with each loci
 - chunk_id: int, auto_increment, unique, not NULL, PK
 - loci_id: int, not NULL, FK
 - first_chunk_value int NOT NULL,
 - second_chunk_value int
 - Constraint UNIQUE (loci_id, first_chunk_value, second_chunk_value)
 - Relationship: M:M relationship with Mnemonics. This relationship is tracked in an intersection table (Chunks_Mnemonics) where the chunk_id, mnemonic_id, and order are attributes.
 - Relationship: M:1 with Loci implemented with loci_id in Chunks as FK
4. mnemonics: 2 digit numbers associated with a person and an action
 - mnemo_id: int, auto_increment, unique, not NULL, PK
 - person: varchar, unique, not NULL
 - action: varchar, unique, not NULL
 - Relationship: M:M relationship with Chunks. Tracked in an intersection table detailed in the Chunks outline above.

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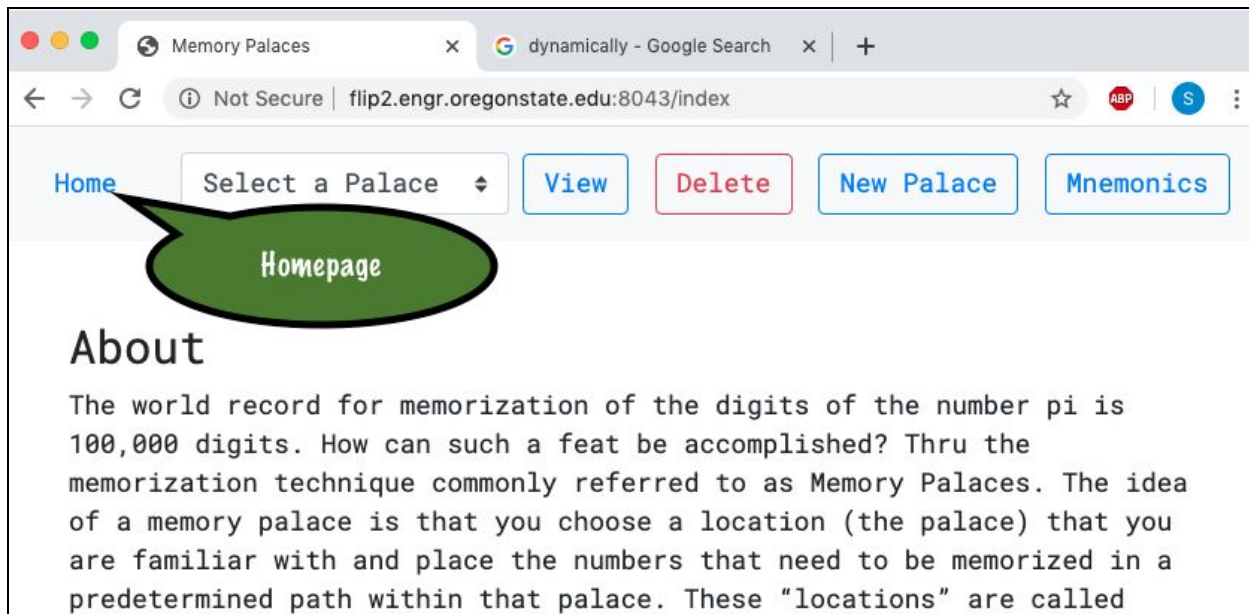


Schema

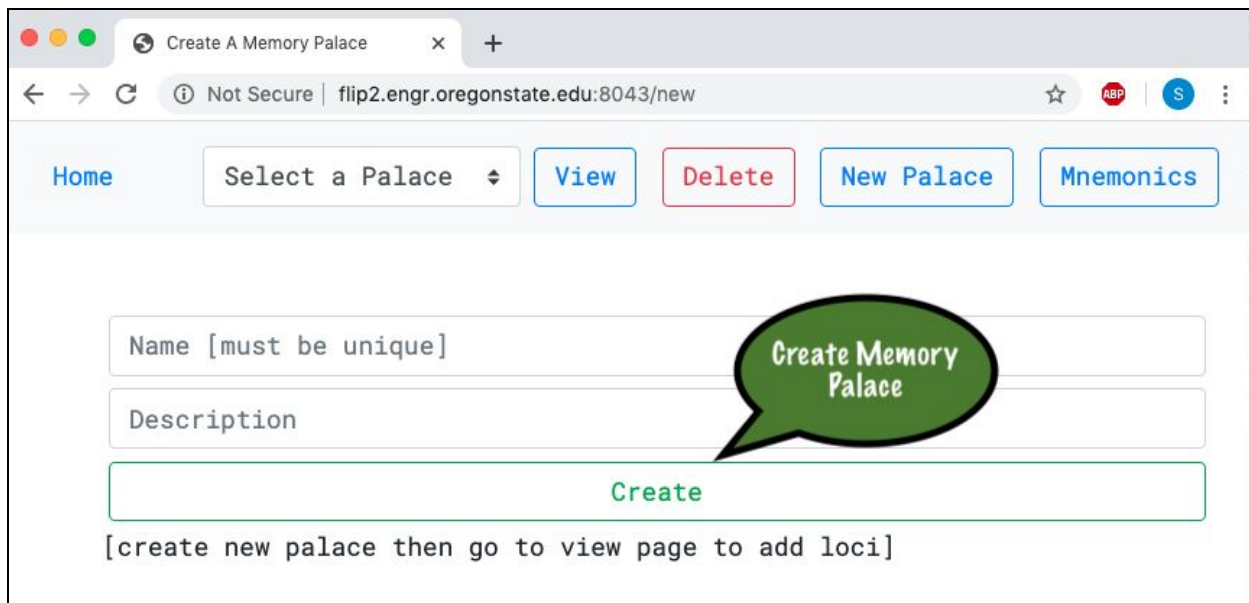


Screen Captures:

HOMEPAGE: Includes intro to memory palace, directions, and links to the other pages



CREATE A MEMORY PALACE: Creates a new memory palace with the user specified name and description.



CREATE LOCUS: Creates a new locus (appending it to the end) within the specified palace.

View Memory Palace

Not Secure | flip2.engr.oregonstate.edu:8043/view/3

Home Select a Palace View Delete New Palace Mnemonics

Empty sample Template

[Edit Loci](#)

Locus	Digits	Person	Action
[use the mnemonics page (link on home) to create mnemonic definitions]			

Add a new Locus

Locus Name -1 -1

CREATE MNEMONIC: Adds a missing mnemonic (set to NULL/None) to the table

Mnemonics Table

Not Secure | flip2.engr.oregonstate.edu:8043/mnemos_filter

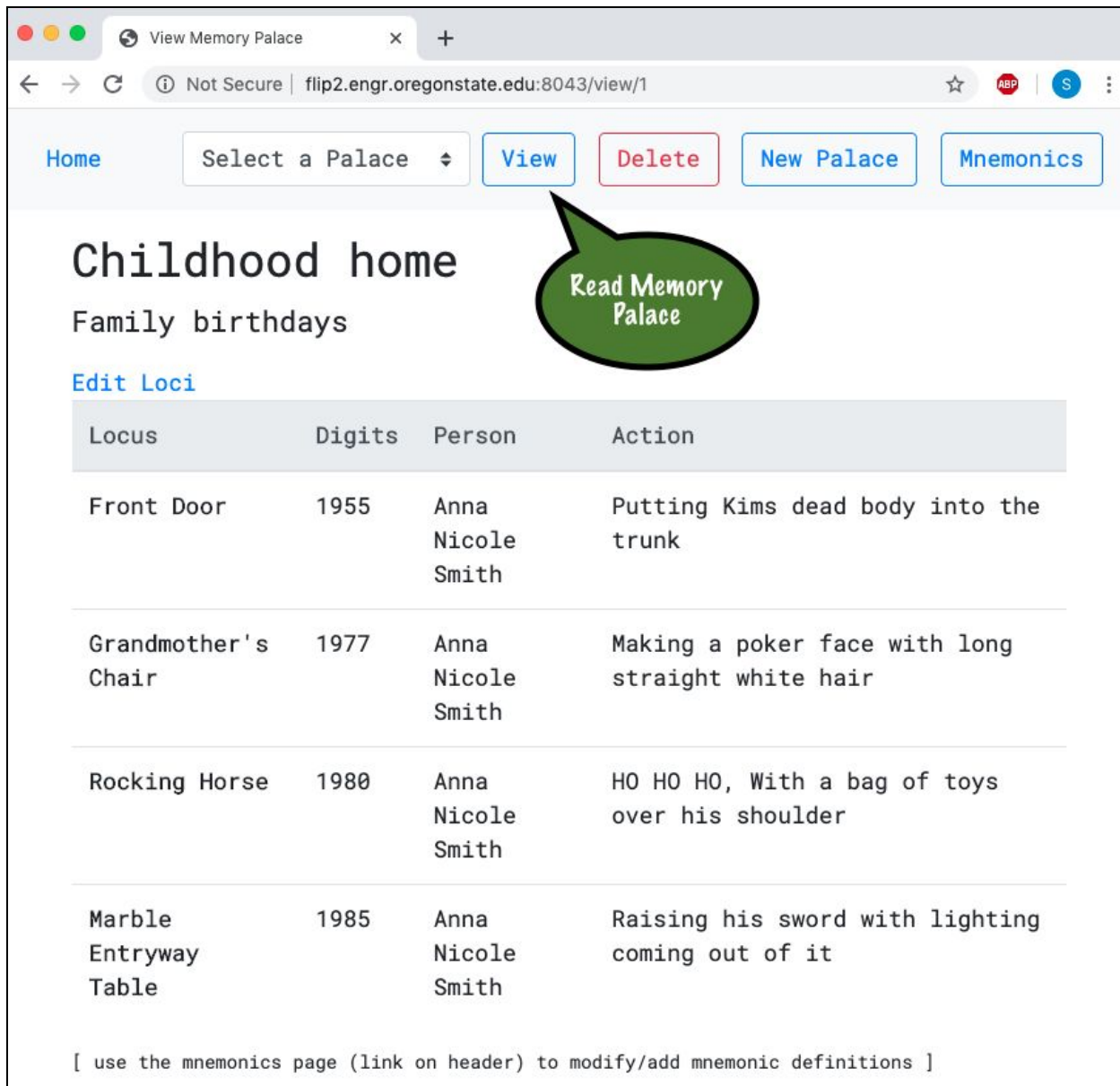
Home Select a Palace View Delete New Palace Mnemonics

you can edit Person/Action mnemonics from this page

[FILTER table for blank Mnemonics](#)

Digits	Person	Action	
06	<input type="text" value="None"/>	<input type="text" value="None"/>	<input type="button" value="Update"/>

READ PALACE DATA: Displays a table with the saved loci data for a selected palace

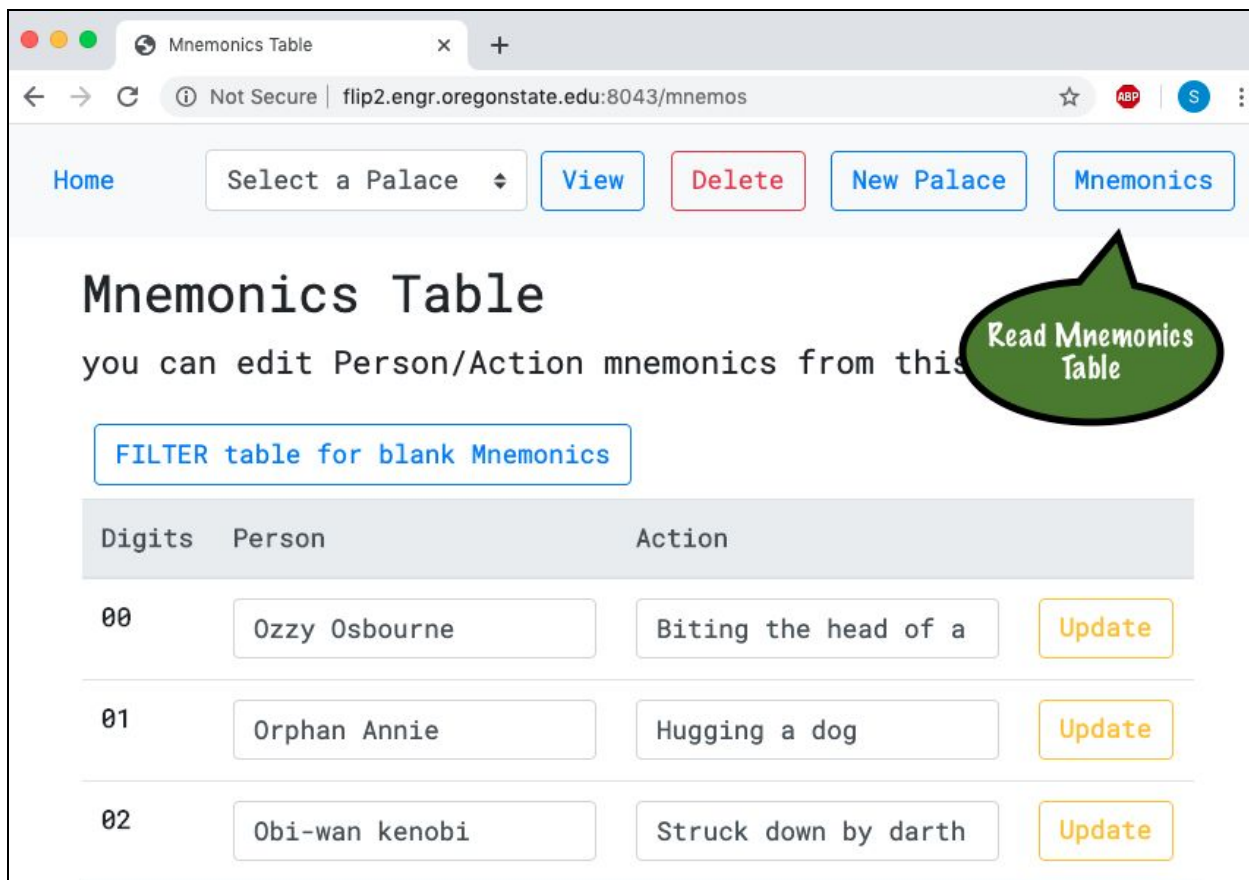


The screenshot shows a web browser window with the title 'View Memory Palace'. The address bar shows the URL 'flip2.engr.oregonstate.edu:8043/view/1'. The page has a navigation bar with a 'Home' link, a 'Select a Palace' dropdown menu, and four buttons: 'View' (highlighted with a green speech bubble saying 'Read Memory Palace'), 'Delete', 'New Palace', and 'Mnemonics'. Below the navigation bar, the selected palace is 'Childhood home'. Underneath, there is a link 'Edit Loci' and a table with four columns: 'Locus', 'Digits', 'Person', and 'Action'. The table contains four rows of data. At the bottom, there is a note: '[use the mnemonics page (link on header) to modify/add mnemonic definitions]'.

Locus	Digits	Person	Action
Front Door	1955	Anna Nicole Smith	Putting Kims dead body into the trunk
Grandmother's Chair	1977	Anna Nicole Smith	Making a poker face with long straight white hair
Rocking Horse	1980	Anna Nicole Smith	H0 H0 H0, With a bag of toys over his shoulder
Marble Entryway Table	1985	Anna Nicole Smith	Raising his sword with lighting coming out of it

[use the mnemonics page (link on header) to modify/add mnemonic definitions]

READ MNEMONICS TABLE: Loads the saved mnemonics table so user can update it



Home Select a Palace View Delete New Palace Mnemonics

Mnemonics Table

you can edit Person/Action mnemonics from this

[FILTER table for blank Mnemonics](#)

Digits	Person	Action	
00	Ozzy Osbourne	Biting the head of a	Update
01	Orphan Annie	Hugging a dog	Update
02	Obi-wan kenobi	Struck down by darth	Update

UPDATE LOCI DATA: Allows user to update the saved loci data for a selected palace

Home Select a Palace View Delete New Palace Mnemonics

Childhood home

Family birthdays

[back](#)

Name	First Digits	Last Digits	Action
Front Door	19	55	Update Submit
Grandmother's Chair	19	77	Update Submit

UPDATE MNEMONICS: User can change the mnemonics currently saved in the database

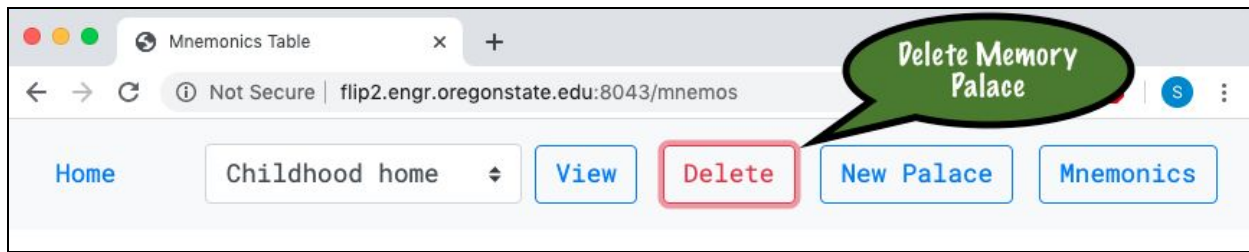
Home Select a Palace View Delete New Palace Mnemonics

Mnemonics Table

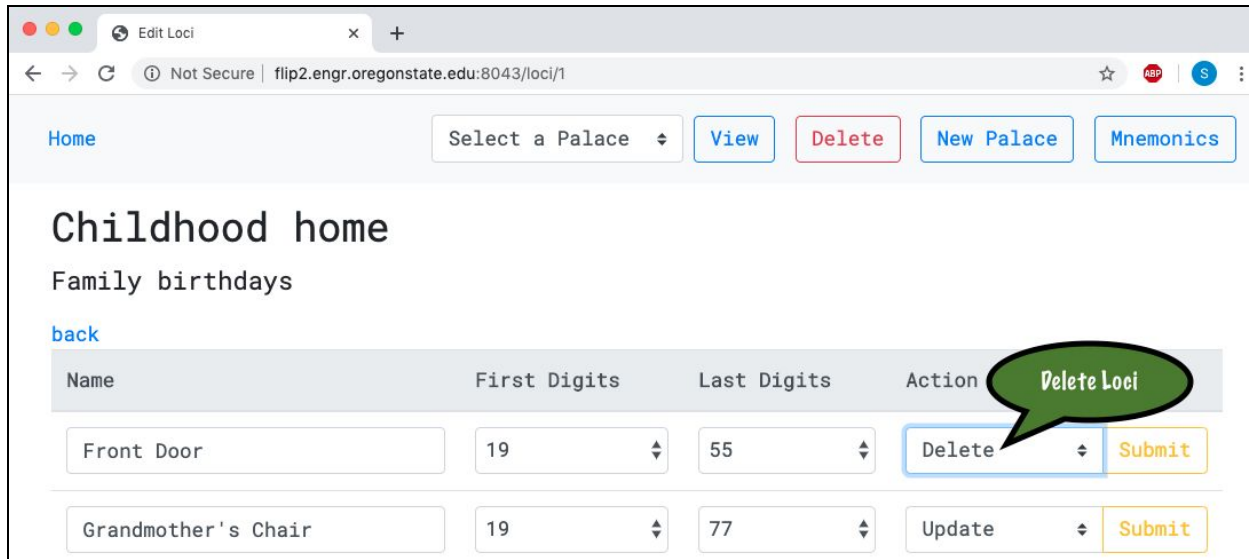
you can edit Person/Action mnemonics from this page

Digits	Person	Action
00	Ozzy Osbourne	Biting the head of a Update
01	Orphan Annie	Hugging a dog Update

DELETE PALACE: After confirming the prompt, the selected palace can be removed from the db



DELETE LOCI: User may delete any loci saved in a palace



FILTERS: User can use the filter on the header to select a palace to view. There is also a filter on the mnemonics table so user can easily navigate the mnemonics that need to be created.

