I’m proposing a website built for users that manage mouse model colonies for scientific research. The website will allow a user to enter a specific colony that the user wants to analyze, and the website will return various useful information for colony management specific to that colony. The information provided will aid the colony manager in making decisions in colony management to effectively produce the animals needed as quickly and efficiently as possible.

The initial website will be a placeholder HTML site where the user can input the colony ID of interest. Once the colony ID is entered, this ID will then be passed on to a CGI script which will connect to a database with all the colony information, and various SQL queries will be made using the colony ID entered. The various SQL queries will mine important data that would otherwise take much longer to sort and find manually. The various queries will save the data to variables to be then passed back to an HTML page for the user to view the information. On the user side, some Javascript/JQuery will be used where appropriate, along with some CSS for styling.

A database schema will be made with sample data to illustrate the project. There will be main tables for colony ID, breeding ID, and litter ID to store the information. The breeding ID table will have foreign keys for both the colony ID table, and litter ID tables.

Some of the information that will be shown on the site to the user will be average litter size at two different ages when compared to a litter size for control experiments (wt/wt) from the same colony. The different ages of the litter size will be at weaning (21-25 days old), and at genotyping (5-7 days of age). This will not only help in determining how many breeding set-ups are appropriate to produce a desired amount of animals, but will also help point to any reduction in fecundity in a transgene model or even any high mortality rate in young pups.