

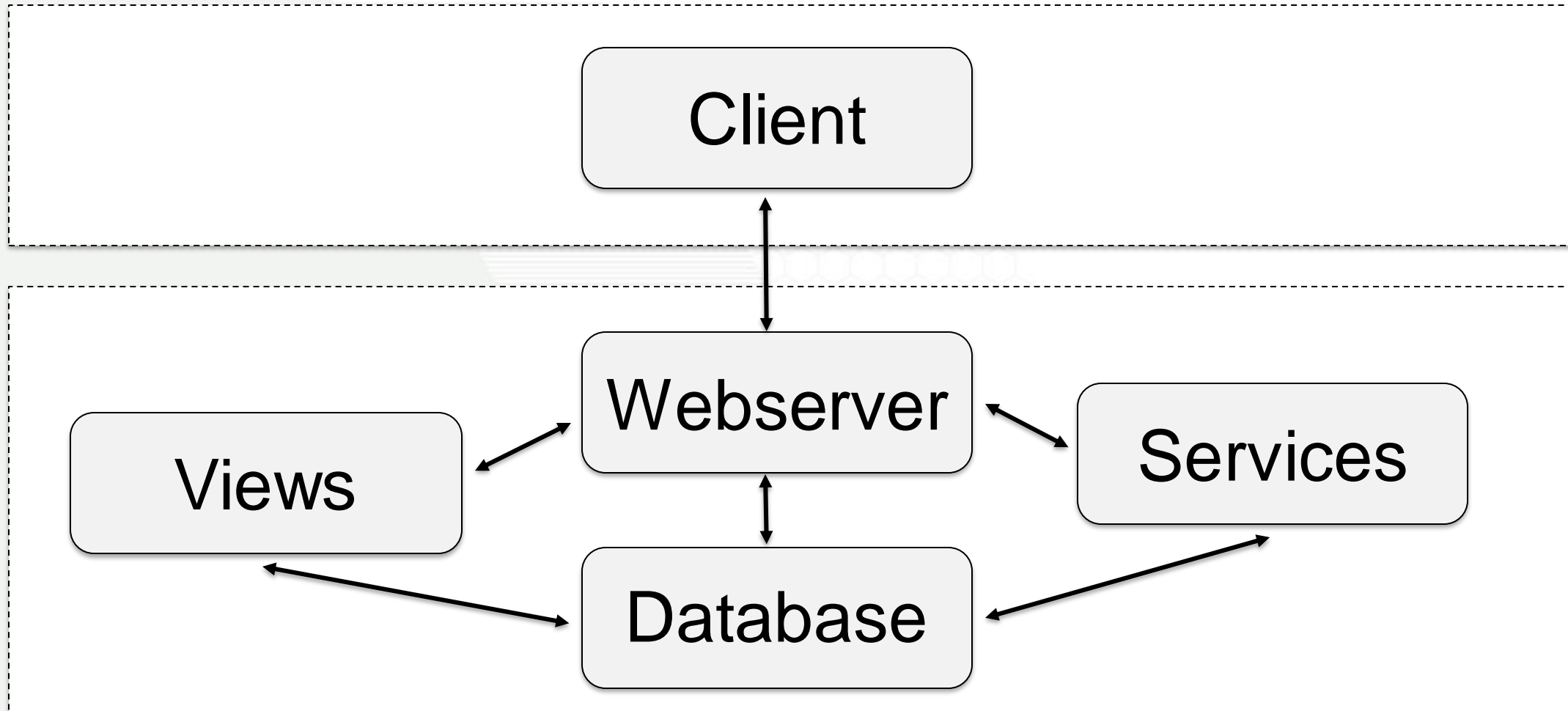
# PREDICTIVE WEBSERVER T1

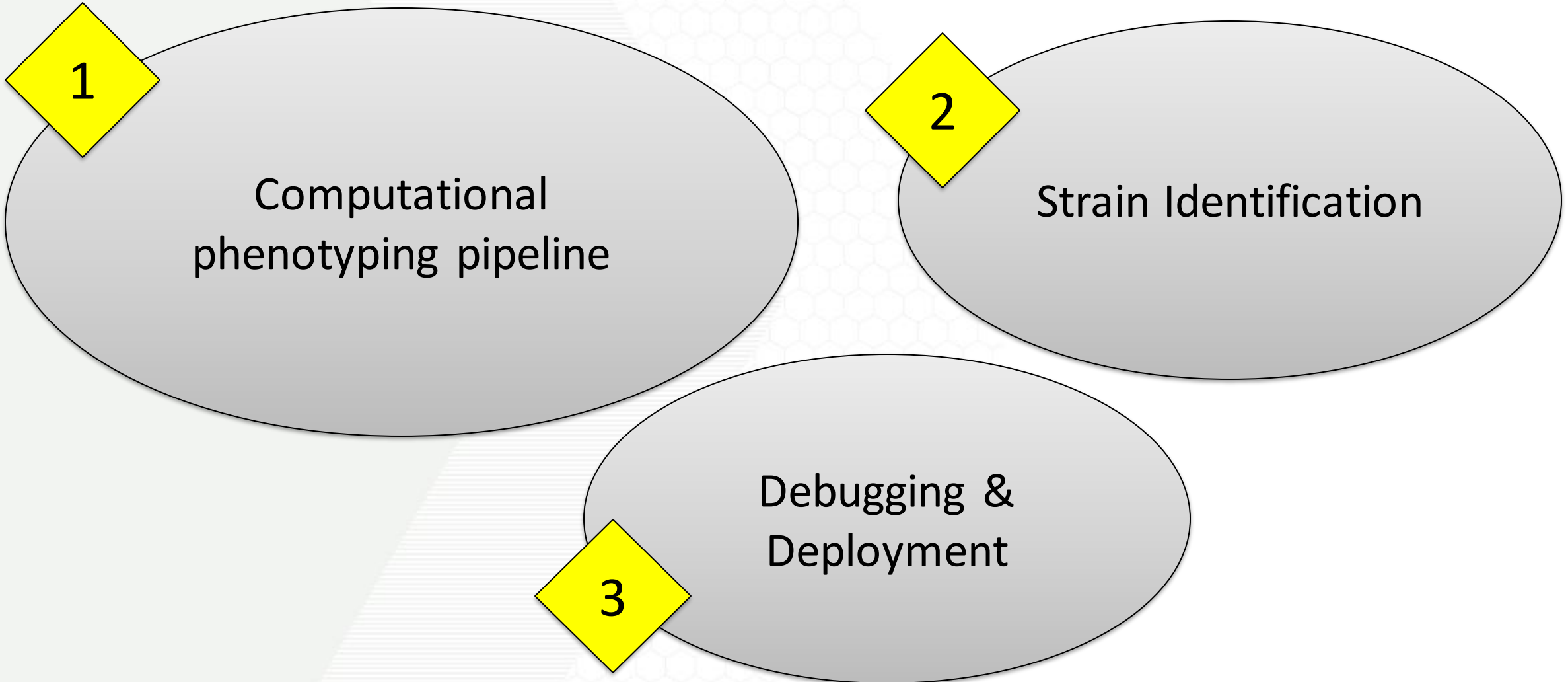
MIDTERM REPORT

CREATING THE NEXT®

- Goals/Expectations
- Functionalities
- Genome Database
- Future Plans

# Goals & Expectations

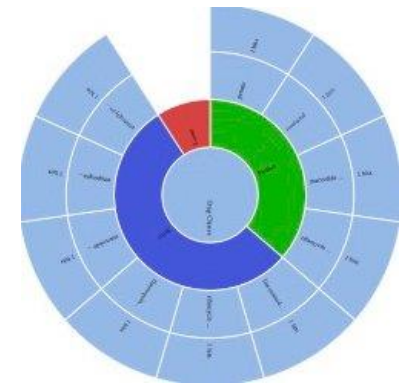
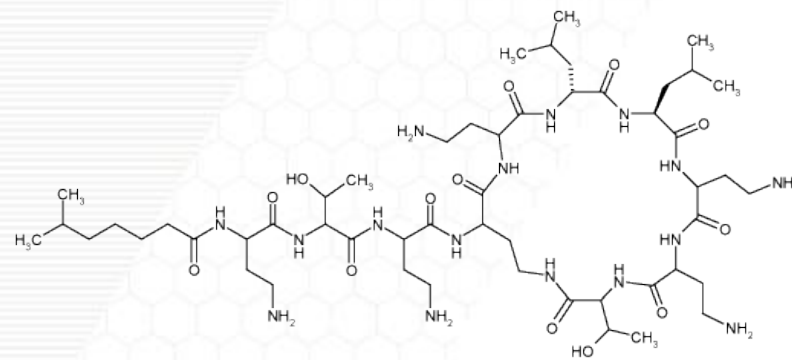




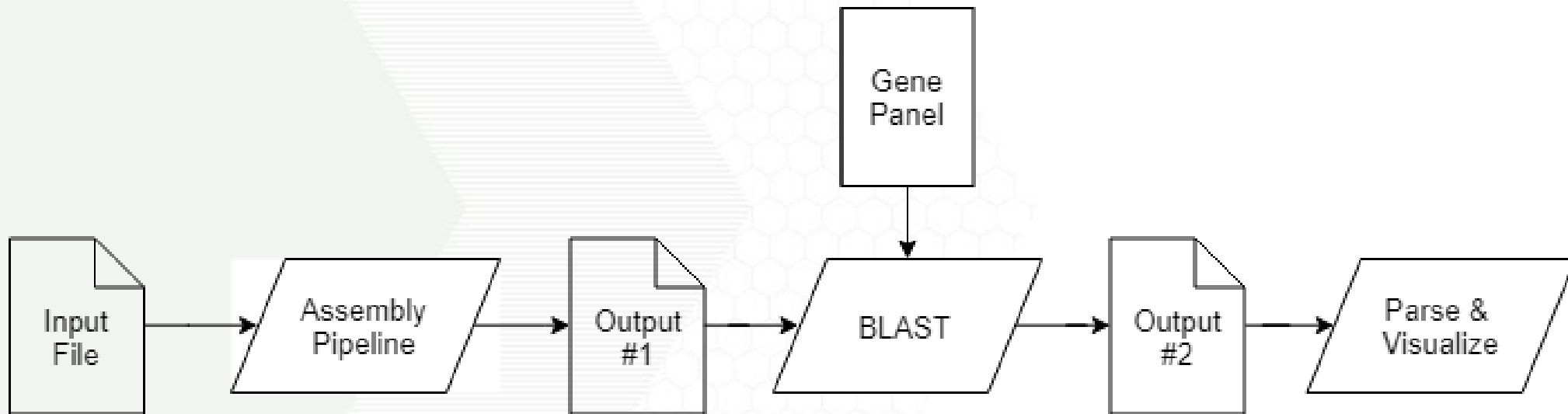
# Functionalities



- Worked with the Comparative Genomics group to get a curated list of genes that are in our 258 *Klebsiella* genomes
- Performed a literature review to find genes that may indicate colistin resistance
- By building the gene panel, we could be able to find phenotypic indicators in our assembled genomes
- We will implement this computational phenotyping using BLAST and d3.js



## Proposed Pipeline





## Proposed Pipeline (In Progress)

KAREN - Klebsiella Antibiotics REsistance predictionN Assembly Predictions

Enter the access code

Submit

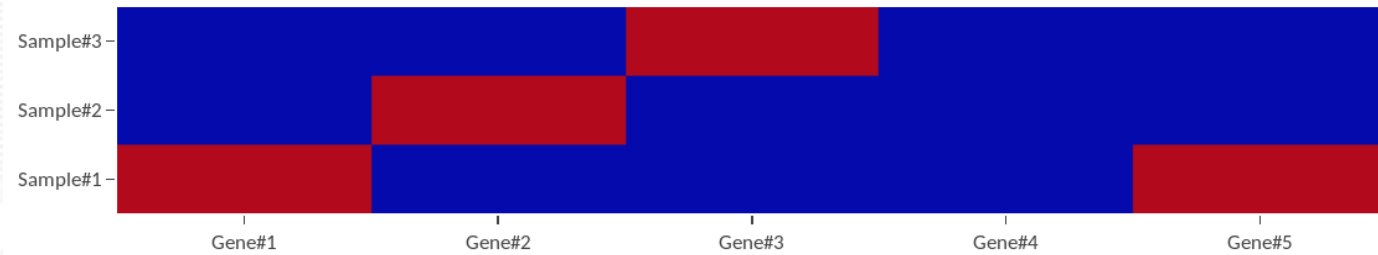
Select assembled file(s) to phenotype

Input

Run



<Desired Phenotype>



Q: Allow user to input their own gene panel?

## Examining ways to implement strain identification

- Utilizing ANI
  - Pyani
- StrainSeeker

# Genome Database

- We plan to use MySQL tables for our database
  - Sample ID will be the primary key for the table
- The table will contain the path to the sequence file (for download), AMR genes present, and VF genes present.
- This will reduce re-processing the same sample if it is used again.
- This will only work if the used gene panel is our default gene panel, won't work if user inputs their custom gene panel.
  - 0 (absent) or 1 (present) for AMR and VF genes based on the curated databases

Sample ID	Assembly	Mcr-1	Mcr-1.2	Mcr-2	Mcr-3	Mcr-4
SRR3467249	path	1	1	1	1	1
Uploaded Sample	path	1	1	0	0	0

# Next Steps

1. Deploy webserver
2. Finish implementing/refining functionalities
3. Address design issues (e.g. file access) and debug
4. Aesthetics



- You should have received an email on Friday, but if you didn't see it, look at the website for the homework  
<http://www.compgenomics2018.biosci.gatech.edu/Team 1: Genome Browser Lab Exercises>
- DUE DATE IN 1 WEEK (April 24)

Thank You