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Software Development 1, CMPT220L-201
Dr. P. Rivas
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Project 2 Proposal

Clementi Lab Database

I am currently a Junior at Marist college studying Environmental Science with a minor in Computer science. Soon into my Sophomore year, I became aware of how important and necessary computer analysis of data were becoming in my future field by being exposed to a Geographic Information Systems (GIS) class. In talking with the GIS professor and further research, I discovered that database management is been becoming a very pertinent area of work due to the increasing complexity of scientific research and the data collection methods necessary for completing this research (Gray, 2005). Therefore, I would like to create a java based program which creates a solution for a laboratory database by using relational databases for the purposes of aggregating data for statistical analyses.

For my project, I plan on creating a simple database that will contain relational tables for storing data from an environmental monitoring station. This database will allow for the querying (searching), addition, removal, and editing (updating) of data. I plan on relying heavily on Chapter 32 of *Introduction to Java Programming* as it has an introduction to database management. As per request of Dr. Rivas, I will use PostgresSQL, an open-source relational table centric database system.

Admittedly, I do not have much experience in this area of programming thus far, and therefore I would predict that there is going to be a fair learning curve. However, in the end I think that this type of project will aid me greatly in the future. By completing a project of this

nature and caliber, I hope to advance my knowledge and stature in my field because I can perform complicated statistical analyses and programming solutions.

References:

Gray, Jim, et al. "Scientific data management in the coming decade." *ACM SIGMOD Record* 34.4 (2005): 34-41.