

One View of a Solution for the Design Homework Problem for the GIS Project:**Note that this is merely an outline and not a complete representation of a solution.**

Controller:	main loop, startup Inputparser, database
CmdParser:	reads commands from input script file Input file Scanner GetNextCommand()
Command:	represents a command, executes command logic? Command fields
Database:	executes database operations logic Indexes, databasefile Processcommand(command)
DatabaseFile	reads/writes to database file RandomAccessFile readRecord(offset) writeRecord(Rec)
GISrecord	represents a GIS record Record fields data transform methods
GISlocation	represents a GIS location Lat/Long Transform methods
BufferPool	caches the DatabaseFile Vector? getRecord(offset)
Hashtable	stores Featurenames Insert(), delete(), find()
FeatureRecord	represents featurename & offset Featurename (name & state?), offsets Equals() based on featurename key
FeatureIndex	fronts the hashtable getOffset(featurename)
Quadtree	stores locations Nodes (more design issues here that have been covered in proj3?) Insert, delete, find, regionfind
LocationRecord	represents location & offset GISlocation, offsets Equals() based on gislocation key
LocationIndex	fronts the quadtree getOffset(gislocation)

Communications diagram:

- controller talks to inputparser, database
- database talks to indexes and bufferpool
- indexes talk to containers
- bufferpool talks to databasefile
- various record structures are used for passing information between above