Backend Design Document

UML Diagram
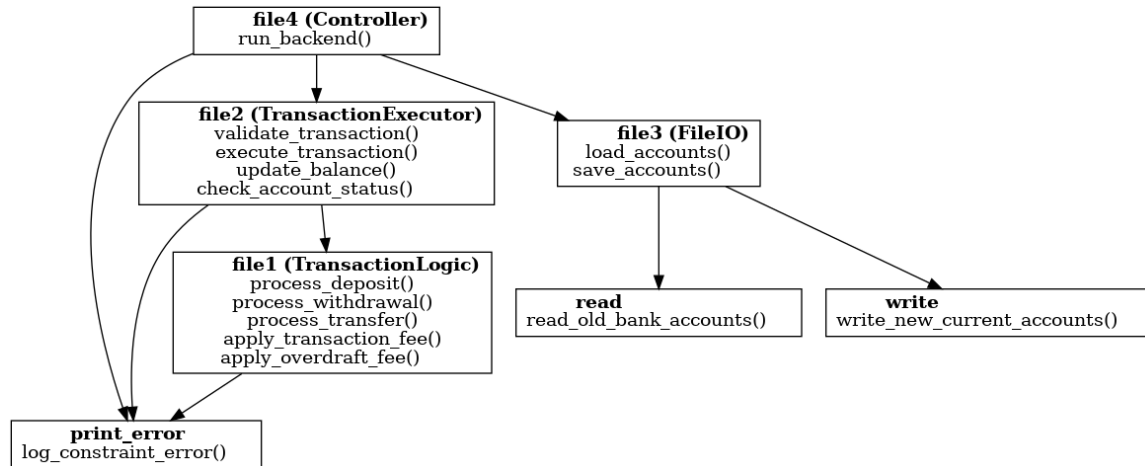
Class & Method Descriptions

Module/File	Function Name	Description
print_error.py	log_constraint_error	Prints standardized error messages with type and description
file1.py	process_deposit	Processes deposit if amount is valid
file1.py	process_withdrawal	Processes withdrawal if sufficient balance
file1.py	process_transfer	Transfers money from one account to another if valid
file1.py	apply_transaction_fee	Applies a fee to a transaction based on type
file1.py	apply_overdraft_fee	Deducts overdraft fee if account goes negative
file2.py	validate_transaction	Validates if a transaction is permissible on a given account
file2.py	execute_transaction	Orchestrates the correct transaction logic depending on the type
file2.py	update_balance	Updates account balance and increments transaction counter
file2.py	check_account_status	Verifies that account is

		active
file3.py	load_accounts	Loads account data from input file
file3.py	save_accounts	Saves modified accounts to output file
file4.py	run_backend	Main controller that reads accounts, processes transactions, writes output
read.py	read_old_bank_accounts	Parses and validates account data from old input format
write.py	write_new_current_accounts	Outputs current account data in required format, ensuring validation