IPO charts

1. Orchestration Layer

Module Name: Service Broker

Module descriptions: The service broker's purpose is to help manage the workflow and coordinate activities by choosing whether to go to the translate or tax module.

Input	Process	Outputs
Service.txt file	Call translate component	code/trans.exe
	Call tax business service	code/tax.exe

Module Name: Translate

Module descriptions: The translate module is responsible for translating the output to different languages as specified. It will output different .txt files based upon the language required.

Input	Process	Outputs
English	Do nothing/default	
Spanish	Create Spanish text file	spanish.txt
French	Create French text file	french.txt
German	Create Germent text file	german.txt

Module Name: Tax

Module descriptions: This module will allow a selection to be made based upon user parameters that enable the different business services to be utilized. It will then output .txt files based upon the input.

Input	Process	Outputs
User parameters	Create text file contain all parameters need for calculate Annual Federal Taxes	20Bracket.txt
	Create text file contain all parameters need for calculate	21Bracket.txt

	Payroll Paycheck	
	Create text file contain all parameters need for determine the monthly payout on an IRA	22Bracket.txt

Module Name: ERROR
Module descriptions: The error module outputs the error message if an error occurs

Input	Process	Outputs
Error message from code/trans.exe	Transfer message to text broker	Error message
Error message from code/tax.exe	Transfer message to text broker	Error message

Module Name: Text Broker
Module descriptions: The text broker is responsible for sending the messages based upon calls made in different languages.

Input	Process	Outputs
default	Send the message in english	MSGEnglish.txt
spanish.txt	Send the message in spanish	MSGSpanish.txt
french.txt	Send the message in french	MSGFrench.txt
german.txt	Send the message in german	MSGGerman.txt

2. Business Layer
Module Name: Financial Services
Module descriptions: The Financial Services allows the user to calculate the amount of federal taxes that are due based upon gross annual income, the year they are filing, and their filing status. It will then return the amount of federal taxes due based upon these details.

Input	Process	Outputs
Base gross annual income	Calculate percentage based on income to be applied from tax bracket file	Returns amount of federal taxes due
year	Choose correct file based on year	Returns correct year to choose the .txt necessary
Filing status	Choose correct file based on status	Returns S J or H to declare filing status so the correct .txt file can be used
Tax bracket file	Compare income to this file to find correct percentage	Returns percentages based on income

Module Name: Payroll Paycheck

Module descriptions: The payroll paycheck module allows users to input their gross annual salary and the amount of pay periods they will have. This will allow them to find out how much they will receive at each paycheck.

Input	Process	Outputs
Gross annual salary	Calculates percentage of FICA, medicare, and state and federal taxes to be taken out	Returns the amount of the salary that will be received
Pay periods	Divides the amount to be paid by the amount of pay periods	Returns amount to be paid out based on pay periods

Module Name: IRA Services

Module descriptions: The IRA Service allows for the gross amount in the IRA, the payout age, and the age for the last payout to be input. From this data the amount for the monthly IRA payout will be calculated.

Input	Process	Outputs
Gross amount in IRA	Used to calculate the monthly payout	Returns the amount of money that will be received from the IRA per month
Payout age	Subtracts from age for last payout	Returns payout age

Age for last payout	Difference of two ages multiplied by 12 for 12 months a year then divides gross amount by that number	Returns age for last payout

3. Utility Layer
   Module Name: Messages
   Module descriptions: The Messages module prints out the messages that have been sent to the module.

Input	Process	Outputs
Any messages that must be printed to the console	Stores messages in variables	Prints messages to the console