

IPO Chart

Component: Business Services/Task

Module Name: Tax

Author: Anisha Beladia

Reviewers: Team 15, Bob Dahlberg

Inputs	Process	Outputs
Tax year	1. select tax year	taxes to be paid
Tax status	2. provide gross income	
gross income	3. utilize tax bracket to find taxes to be paid	
	4. display the taxes to be paid	

Inputs:

- Tax year
- Tax status
- gross income

Process Description

1. The user will select the tax year (2020,2021) and provide the gross income.
2. The gross income will be determined by each bracket you are a part of
3. The amount will include the max taxable amount per bracket you are fully in and a percentage of the income in the one you spill into

Outputs

- taxes to be paid

APIs/Objects:

- tax brackets for 2020
- tax brackets for 2021

Pseudocode:

IF income < first tax bracket

Taxes to be paid = gross income times the first tax bracket percentage

ELSE IF income < first tax bracket

Taxes to be paid = maximum taxable amount from tax bracket 1 + (gross income - first tax bracket amount) * second tax bracket percentage

ELSE IF.... THIS CONTINUES UP TO THE LAST TAX BRACKET

IPO Chart

Component: Business Services/Task

Module Name: Translate

Author: Anisha Beladia

Reviewers: Team 15, Bob Dahlberg

Inputs	Process	Outputs
Words to translate	1. select language 2. input string 3. parse string 4. add translation for each word after a comma	String of translated input
language		

Inputs:

- Words to translate
- language

Process Description:

1. The user will select the language
2. The user will input a string
3. the string will be translated and the translation will appear after each word preceding a comma

Outputs:

- String of translated input

APIs/Objects:

- French Library
- Spanish Library
- German Library
- English Library

Pseudocode:

The string will be parsed and each word will be stored in a matrix column

The word will be translated into the selected language in another column of the same matrix.

The words from each row will be printed with a comma in between.

When selecting the “go back” button the second column will erase to allow for another language translation

Component: Orchestration Services

IPO Chart

Module Name: Service Broker

Author: Mia Park

Reviewers: Team 15, Bob Dahlberg

Inputs	Process	Outputs
Service to call Plist for the service to be called	1. Input from the Application Server Node is processed. 2. Service broker determines which module in Business Service the program enters. 3. Return value from the respective program is outputted to the user.	Return value from service called.

Inputs:

- Service Call
- PList for service to be called

Process Description:

1. The selected program function option is entered in the User Interface and the stored information is sent to the Orchestration Service via the Application Server node.
2. Service Broker processes the transferred information and redirects the program to the appropriate Business Service module.
3. Return value from the respective program is outputted to the user.

Outputs:

- Return value from service called.

APIs/Objects:

- N/A

Pseudocode:

User enters an option in the User Interface that corresponds to a switch case that will call appropriate program functions depending on user input.

IF (input == Translation)

 Direct program to Translate module in Business Services.

 Print (Translated word)

ELSE IF (input == Tax)

 Direct program to Tax module in Business Services.

 Print (Tax Amount Due)

ELSE IF (input == Main Page)

 Restart program.

ELSE (input == Options)

 Display program overview to user.

IPO Chart

Component: Utility Services

Module Name: Messages

Author: Mason Delane

Reviewers: Team 15, Bob Dahlberg

Inputs	Process	Outputs
Error Code	<ol style="list-style-type: none">1. Open options.txt file2. Read language.txt file name3. Call service broker with the text broker service code with error language file and error code4. Return the error message	Error Message

Inputs:

- Error message code or tax amount due/the translated word

Process Description:

1. Open options.txt file
2. Read language.txt file name
3. Call service broker with the text broker service code with error language file and error code
4. Return the error message

Outputs:

- A string with either a translated word or the tax amount due. This is dependent on what is entered by the user.
- A description of the error message in the language the user wants it to be in

APIs/Objects:

- Text broker

Pseudocode:

If the error message code is present we must call service broker with text broker service code to get an error message in the language specified by the user
The error message is returned as a string and is printed
The program is stopped