### Project Title: Ohio Public College Match Maker

### Programmer: Jacob Wise

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## Problem

Explain the problem that your software will solve. What does the program do? Two or three sentences that “sell” your product.

Want to attend a public university in Ohio, but don’t know which one? This program will help potential students choose which school is right for them.

What is required? Final report? Results displayed? Video/animation displayed?

User will answer a series of multiple choice/yes or no questions regarding colleges, and match colleges will be displayed in order of most suited to least suited.

Include any diagrams, math formulas, models that will help explain the problem.

## Client/User

Who is your client? Who will be using your program? Bank manager, child, grandmother, cashier, restaurant server, researcher, doctor, nurse, patient, police officer, teacher, mechanic, teenager, etc.

Highschoolers, potential transfer students, parents, guidance counselors, teachers.

What assumptions do you have to make about your user?

User can read, is looking to match a student with a school, wants to search only Ohio public schools, have opinions on asked factors.

How will they use your software? Standard Unix application with keyboard? Handheld device with stylist? Cell phone with touch screen? Other?

Unix, keyboard, computer monitor.

## Data

What is unknown? What information will come from the user, data file, calculation or other input?

User will enter choices to questions to build a “profile.”

What is given? What is known? Prices, amounts, maximums or minimums?

Profiles of colleges will be pre-programmed. Additional info of colleges will be pre-set.

What assumptions do you have to make about the data? Ranges? Validation needed?

User must choose one of the given choices. Data will work be integers that represent elements.

## Solution

What are the principle parts of the problem? Basic input, processing, output steps?

Input – User enters preferences to questions; Process – Match entered data with college data. Calculate percent accuracy; Output – Display matches and college data if desired.

Have you solved a problem like this before? How is it like another problem you have solved?

First part is just a series of questions with answers recorded. Will include a few menus.

Are some parts easier to solve than others? Which one(s)?

Record user preferences in arrays, checking match percentage.

Which part of the problem will be tricky to solve? What ideas do you have?

Keeping match percentage array parallel to respective college array when ordering from best to least.

Does it help to restate the problem in a different way?

Use percent similarity between college matches and user choices to order display.

Did you use all the information that was given?

Yes. All user input will be used by the program.

Can you satisfy all the conditions of the problem?

Yes, user will be matched with the best matched public college in Ohio

Have you left anything out?

No.Planning

Variable Table  
Create a table for all main constants and variables.

|  |  |  |
| --- | --- | --- |
| Constants | Name | Datatype |
|  |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| Array(s) | Name | Datatype |
| Variable | userData | int |
| percentMatch |  |
| Constant | akronData | int |
| centralStData | int |
| cleStData | int |
| miamiData | int |
| ouData | int |
| uotData | int |
| youngstownData | int |
| bgsuData | int |
| uocData | int |
| kentStData | int |
| osuData | int |
| wrightStData | int |
| shawneeStData | int |
| Variables | Name | Datatype |
|  | userChoice | int |
| indPercentMatch | double |
| numMatch | double |
| matchName | string |
| collegeRef | int |
|  |  |
|  |  |
|  |  |

Structure Chart  
Create a structure chart for all the sub routines and functions (each box represents a function – you may need to add or remove boxes).

(Sorry spacing is weird… couldn’t get it right)

Pseudocode  
Type the basic sequence of actions necessary to solve the general problem. Do not write any code – just write the steps: Input – Processing – Output. Include any additional diagrams that would be helpful.

### Sample Data

Sketch the array(s) that you will use for this project. Insert sample data into your arrays so I can understand what information your arrays will hold. See example:

cartoonCharacters

|  |
| --- |
| Speed Racer |
| Trixie |
| Chim Chim |
| Sparky |
| Spritle |
| Pops Racer |
| Mom Racer |
| Racer X |
| Captain Terror |
| Car Team Member |