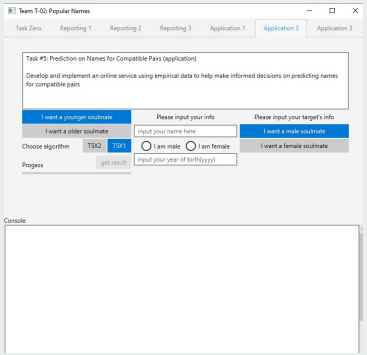
Comp 3111 project



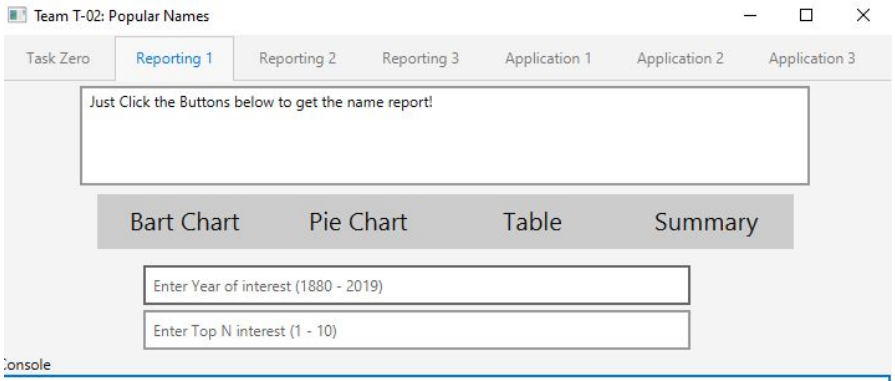
Group members : Liu Pak Wai, Lui ka lung

Added features

- UI theme changed
- warning noise for error alert
- some sound effect
- progress bar and input lock

TASK 1 showcase

Task 1 interface



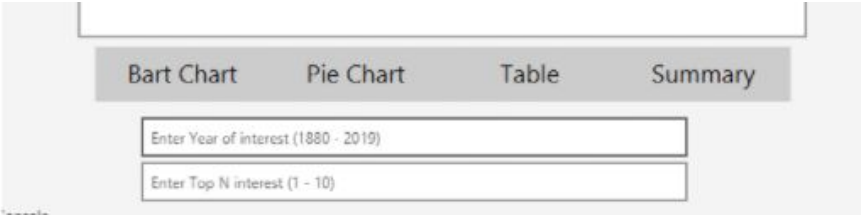
- Four buttons larger size than the task zero.
- text field with labels remindind user to write valid input
- Put the button on the top, input right below it
- Make sure user knows what can be generated

Task 1 Data Reporting

- Task 1 reports the Top N popular both males and females names in sepecific year.
- Top N input by user between 1 - 10 inclusive
- year input by user between 1880 - 2019 inclusive
- There are total 4 buttons generate result on bar chart, tables, pie chart , summary in console.

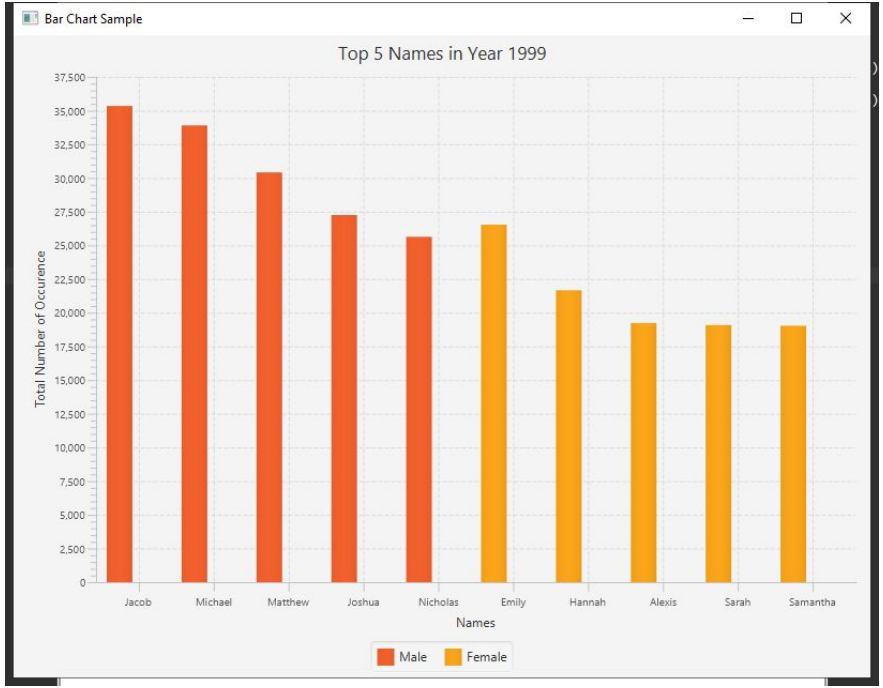
Task 1 Bart chart

- Sound effect, there is a whistler sound reminding user that Bart chart is generated.
- There are two required input first box needs to fill year of interest between 1880 - 2019
- Second one is the Top N requires 1 - 10,



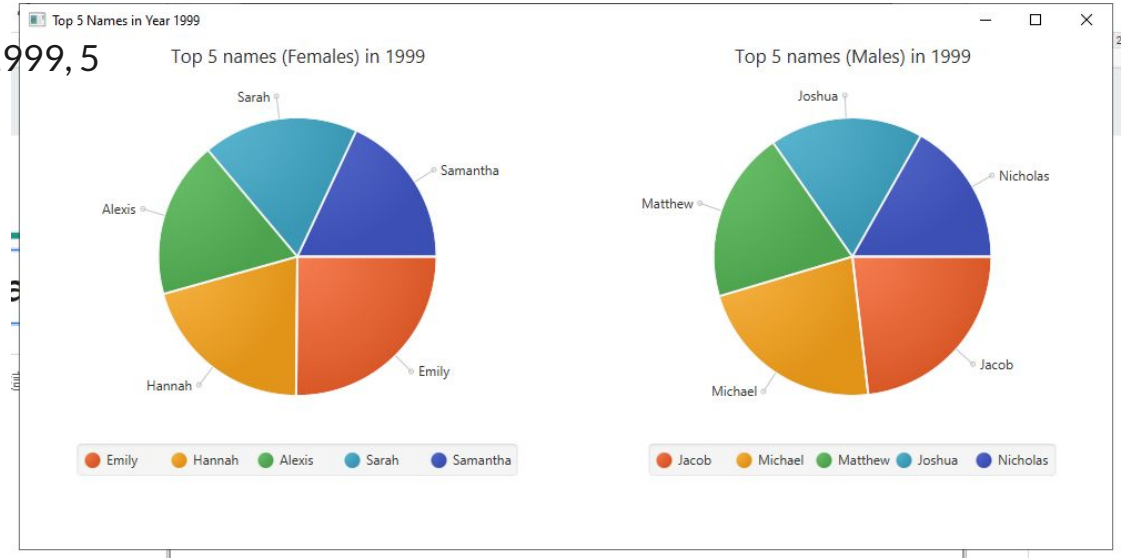
Task 1 Barchart Output

- input valid year, topN. for example : 1999, 5
- Male shown on the left orange
- Female shown on the right in yellow
- Y shows the total occurences
- X is the names]
- Sound effect out~ once press button
- Make users easier to see the result



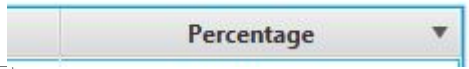
Task 1 Pie chart output

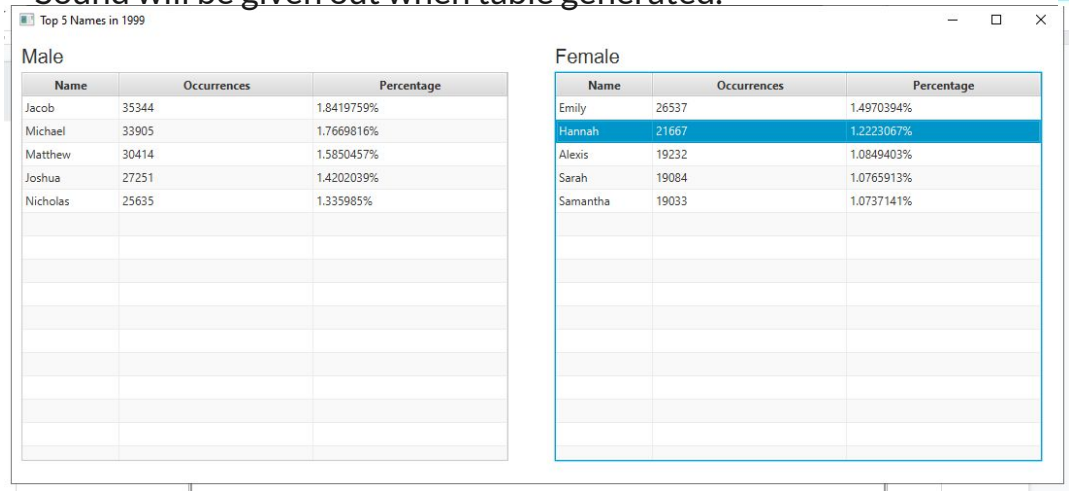
- input valid year, topN. for example : 1999, 5
- Female on the left
- Male on the right
- title with the year, Top N
- name shows different color
- Sound effect out~ once press button
- Make users easier to see the result



Task 1 table

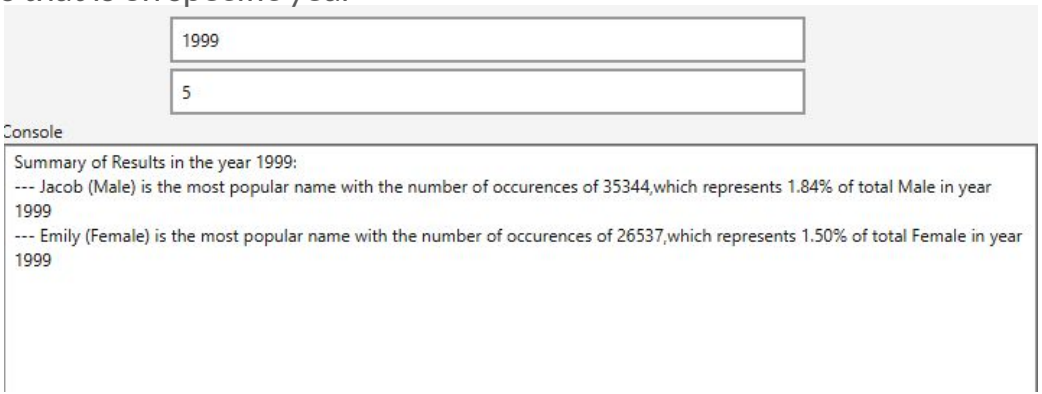
- Male table on the left , Female tableson the right
- table shows the names, occurence, percentage
- sorted in decsending order
- you may manually adjust the order clicking the buttons header
- Sound will be given out when table generated.





Task 1 summary

- input valid input , (year only)
- Clicking Summary button
- sound effect
- giving the most popular names that is on specific year
- Result shown on the console

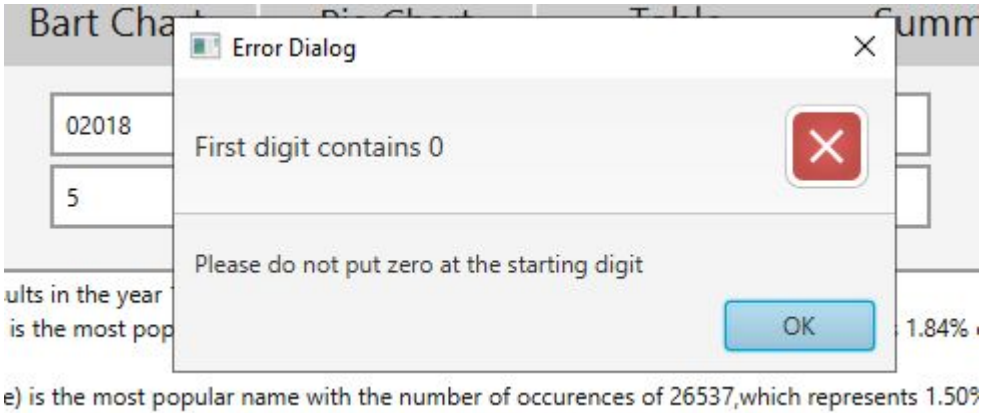


Task 1 Alert : invalid input

- for year and the input N we expect users enter valid input digital number within range
- Year 1880 - 2019
- N 1 - 10
- if enters non numerical value into the “year” field, following message will be given out.
- if enters non numerical value into the “N” field, all buttons except summary will give alert
- PS : summary do not need top N as input

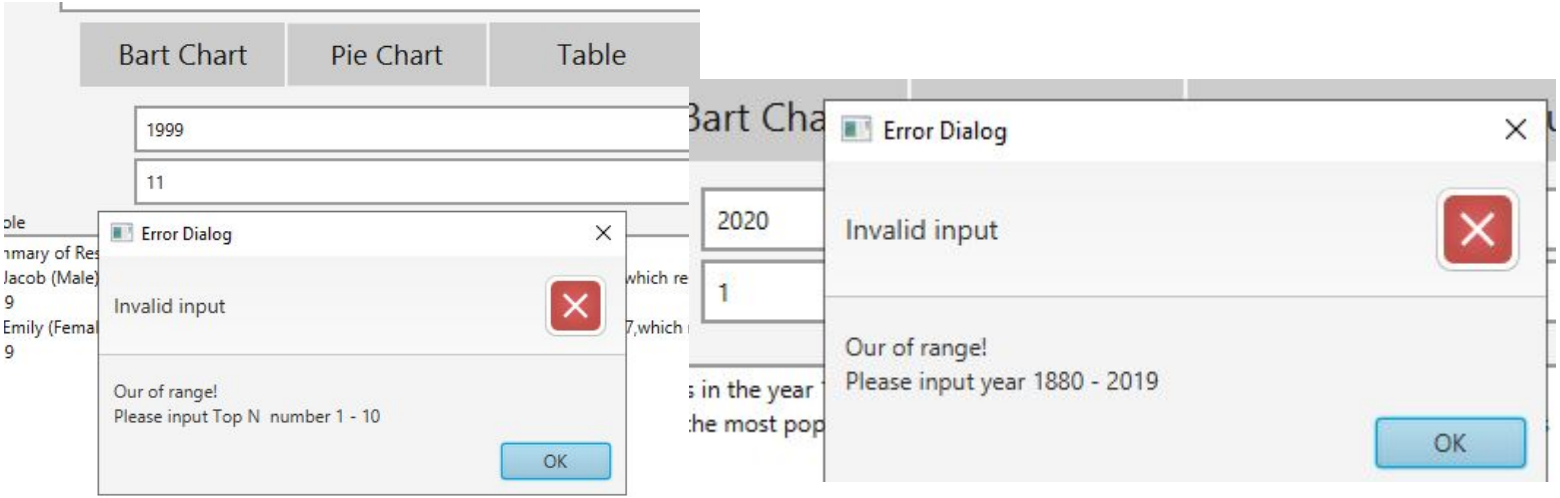
Task 1 Alert : invalid input 0 digit

- input number with first digit = 0 is not allowed eg. 01,02..
- following out put with alert IMAGE and SOUND will be given



Task 1 : Alert out of range

- Input N > 10, input N < 0. year > 2019, year < 1880.
- following out put with alert IMAGE and SOUND will be given



Task 1 : Alert empty input

TASK 2 showcase

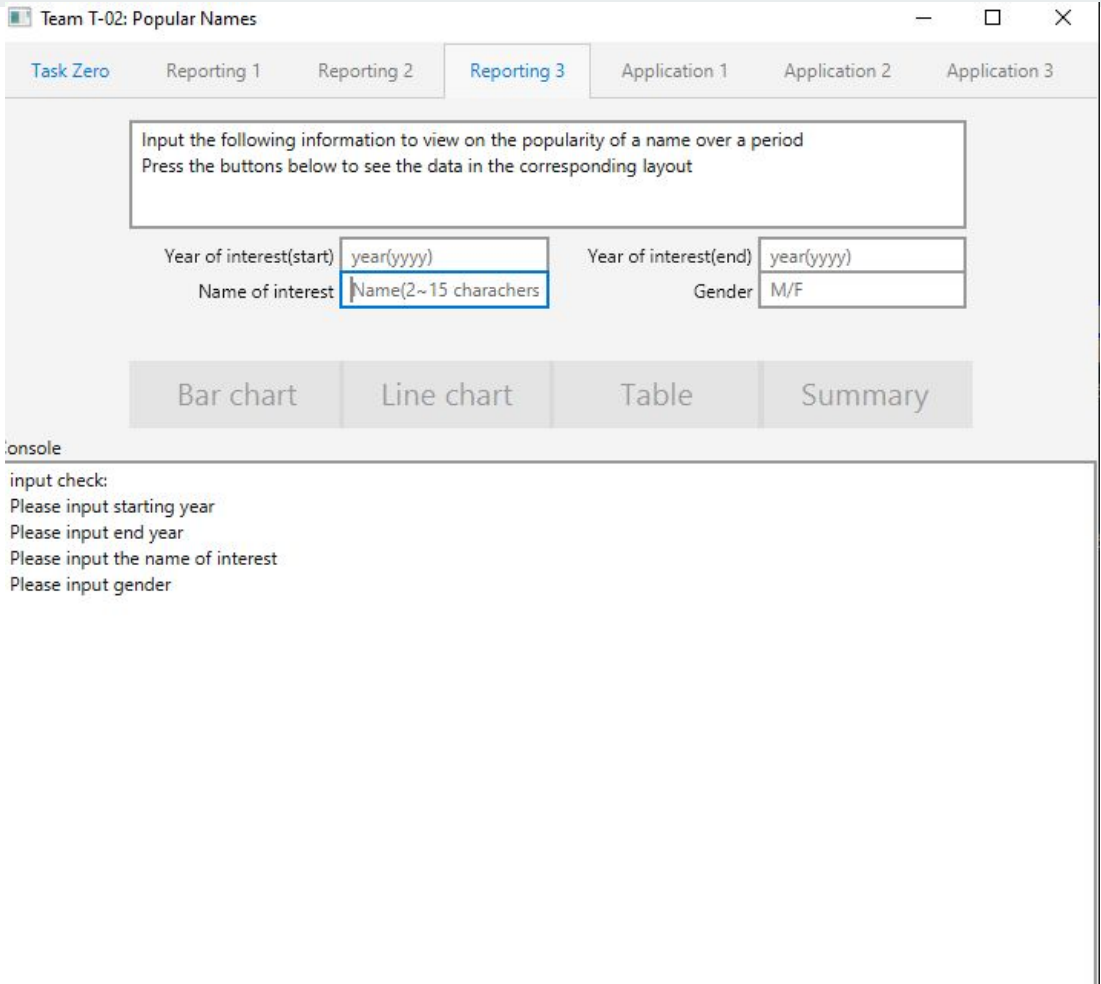
TASK 3 showcase

Task 3 safelock

The button will lock if the input is invalid

This check for empty input

console will tell user the input is empty



Task 3 safelock

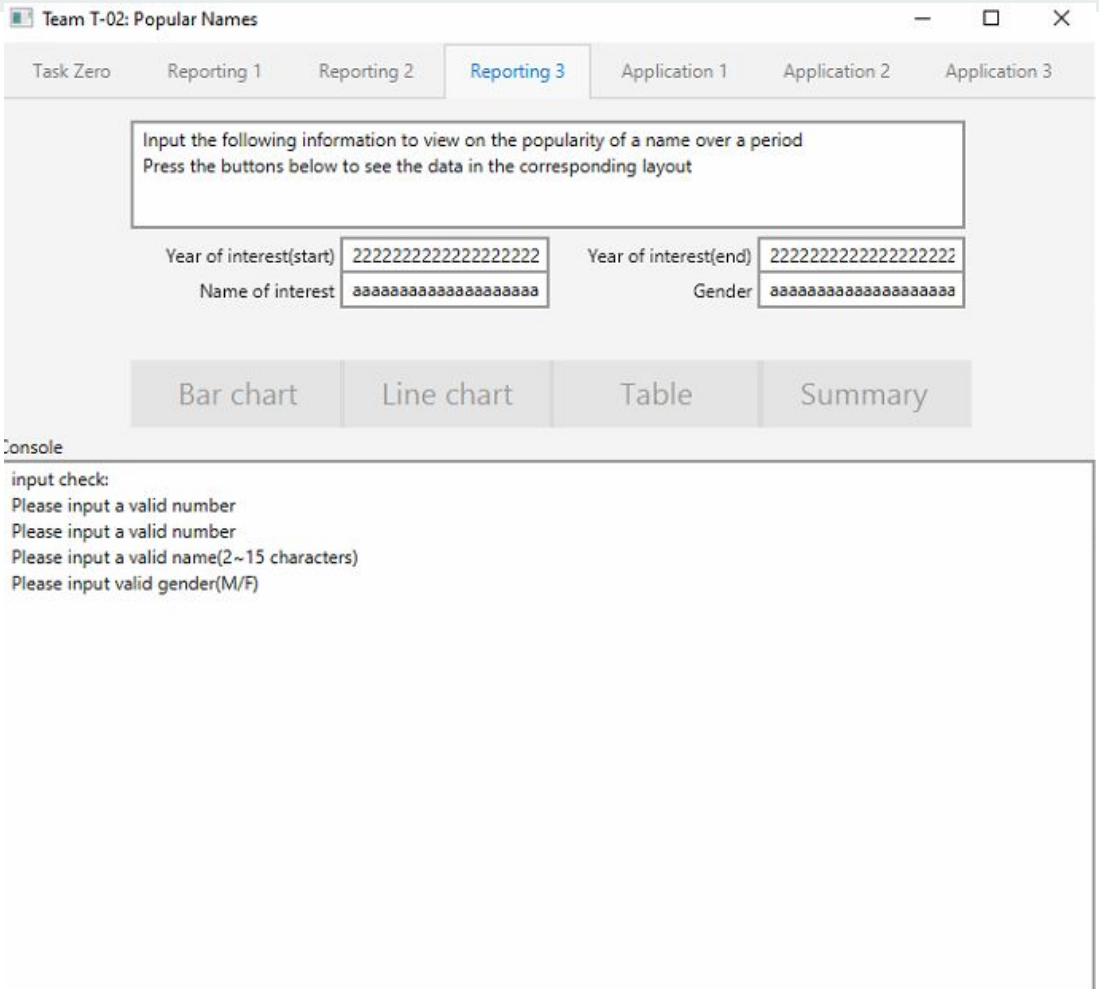
The button will lock if the input is invalid

This check for overflow

console will tell user the input is invalid

- if the number is over 4 digit
- if name is out of range(2-15)

this also checks if gender is M/F or not



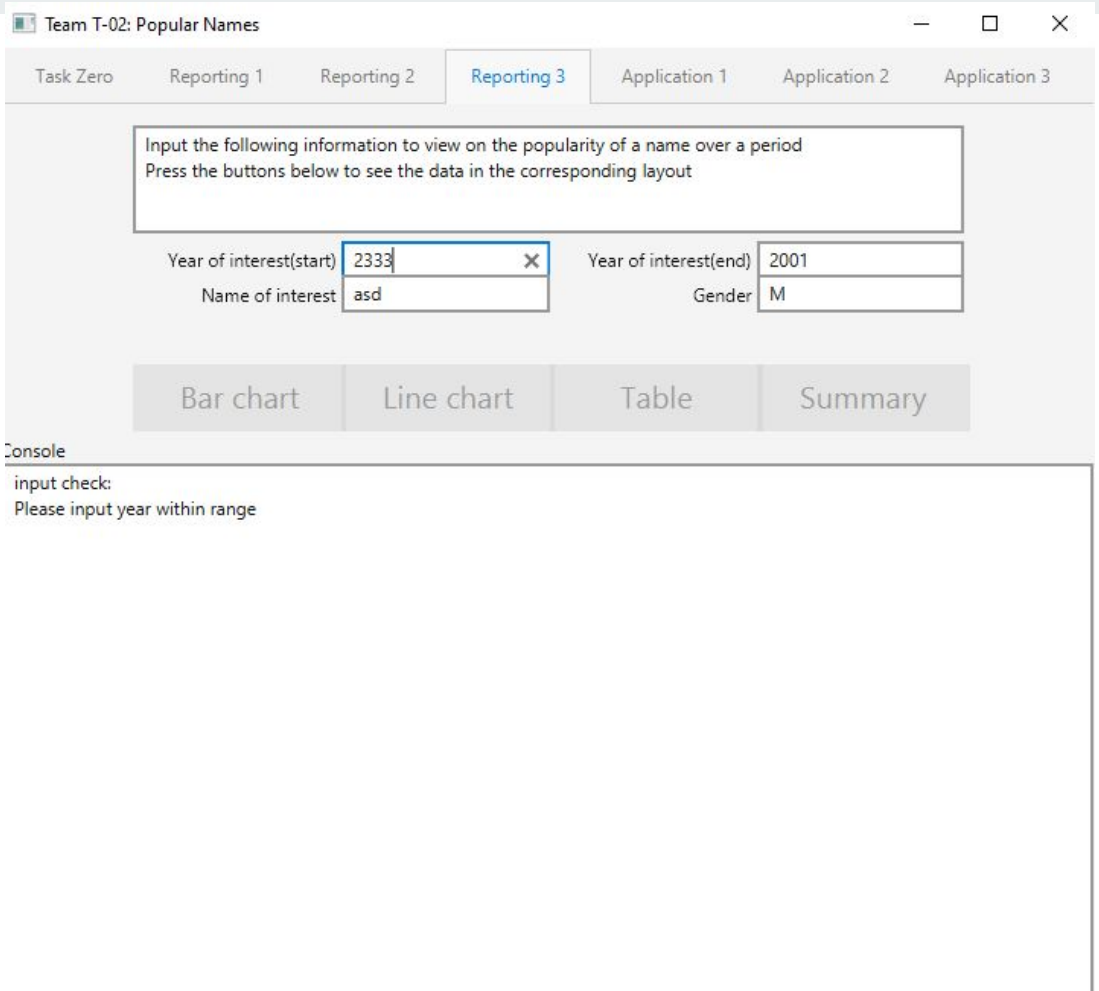
Task 3 safelock

The button will lock if the input is invalid

This check for year range

console will tell user the input out of range

range(e.g.1880-2019)

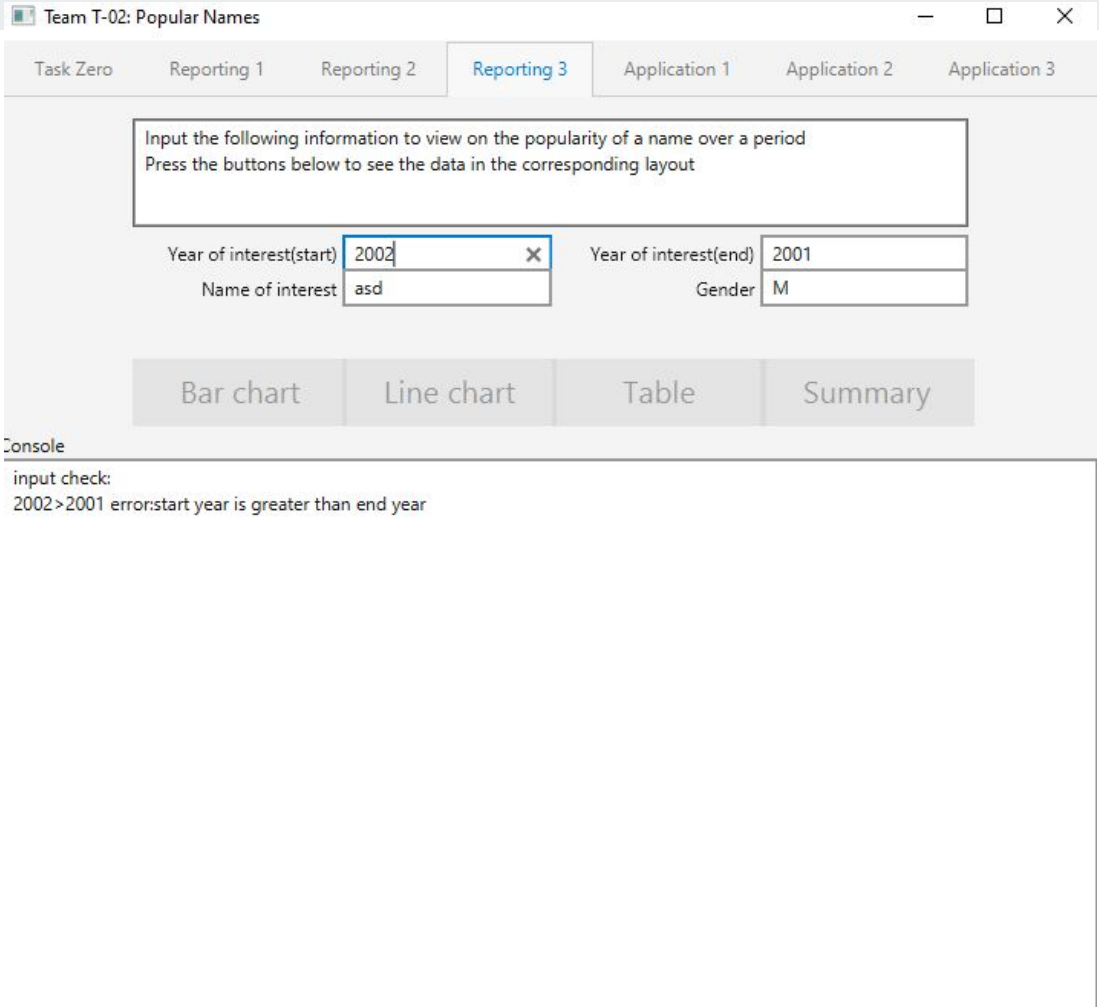


Task 3 safelock

The button will lock if the input is invalid

This check for the period(start>end)

console will tell user the input is invalid



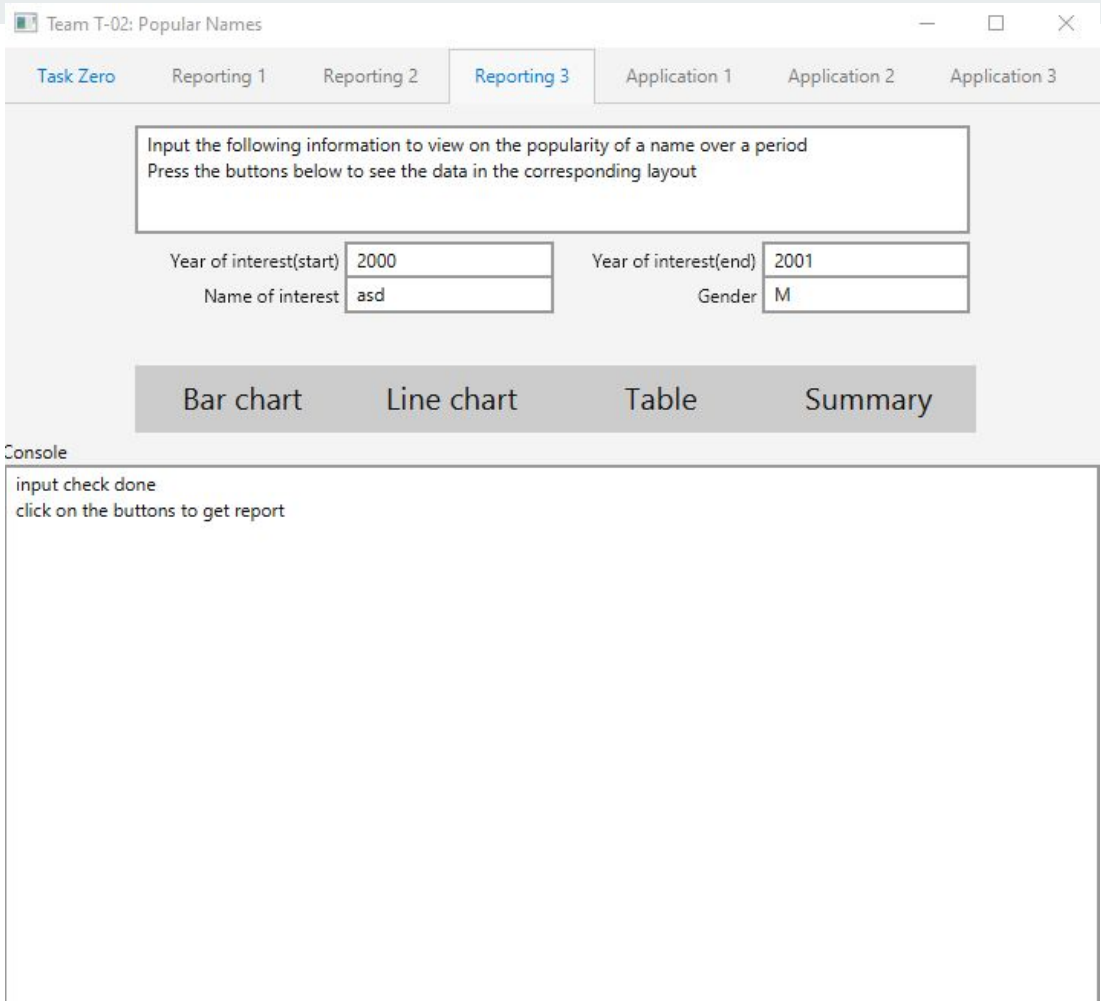
Task 3 unlock

once the input format is correct

the button will unlock

but name may not exist in the data

the button will still unlock



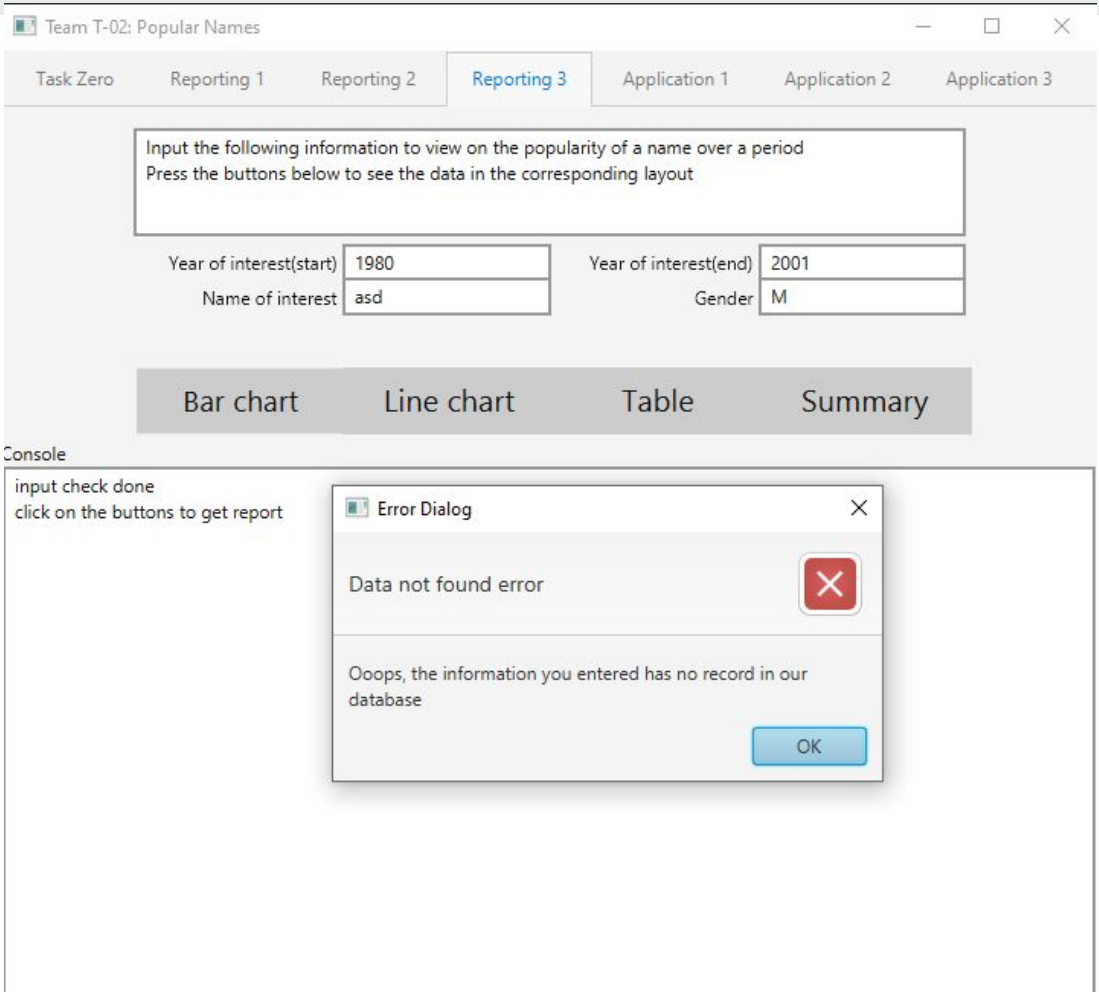
Task 3 data not found

After the buttons is unlocked

if the user clicked on any of the 4 buttons

this popup will be shown

if the name does not exist or not found



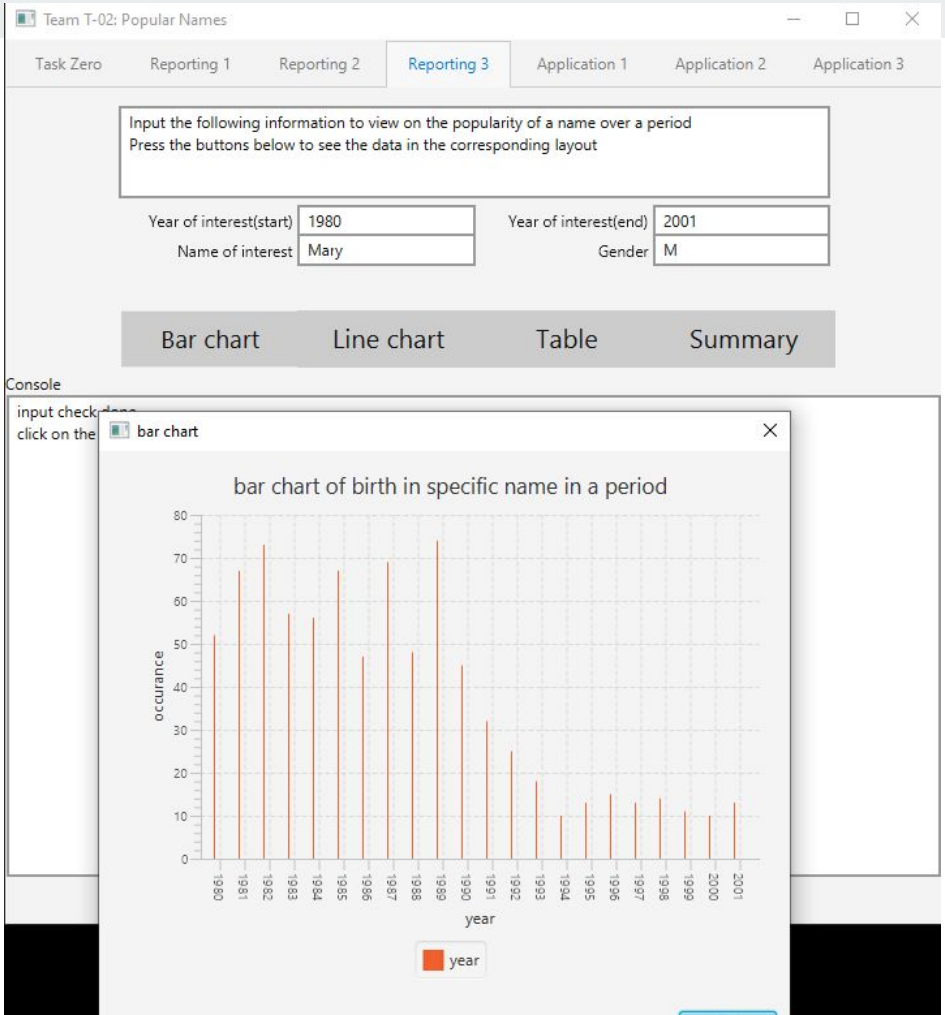
Task3 show bar chart

after all the input checking

by clicking the bar chart button

a popup will be shown

containing the bar chart with the data of interest



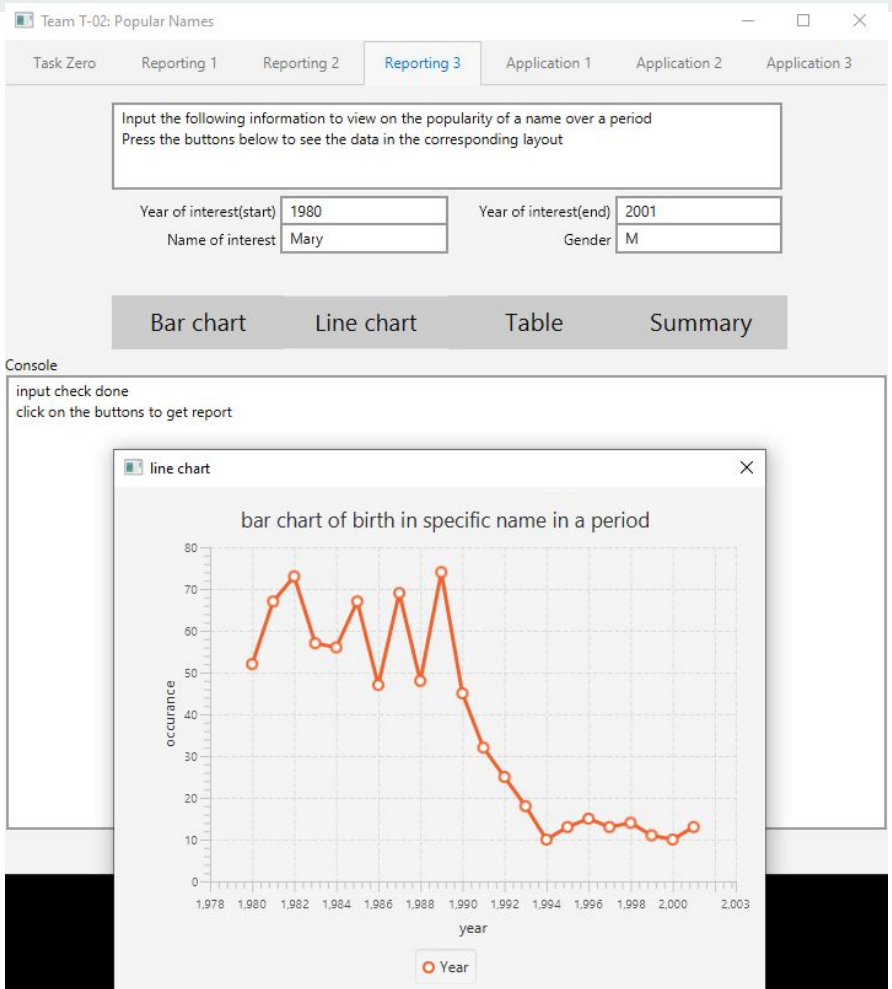
Task3 show line chart

after all the input checking

by clicking the linechart button

a popup will be shown

containing the line chart with the data of interest



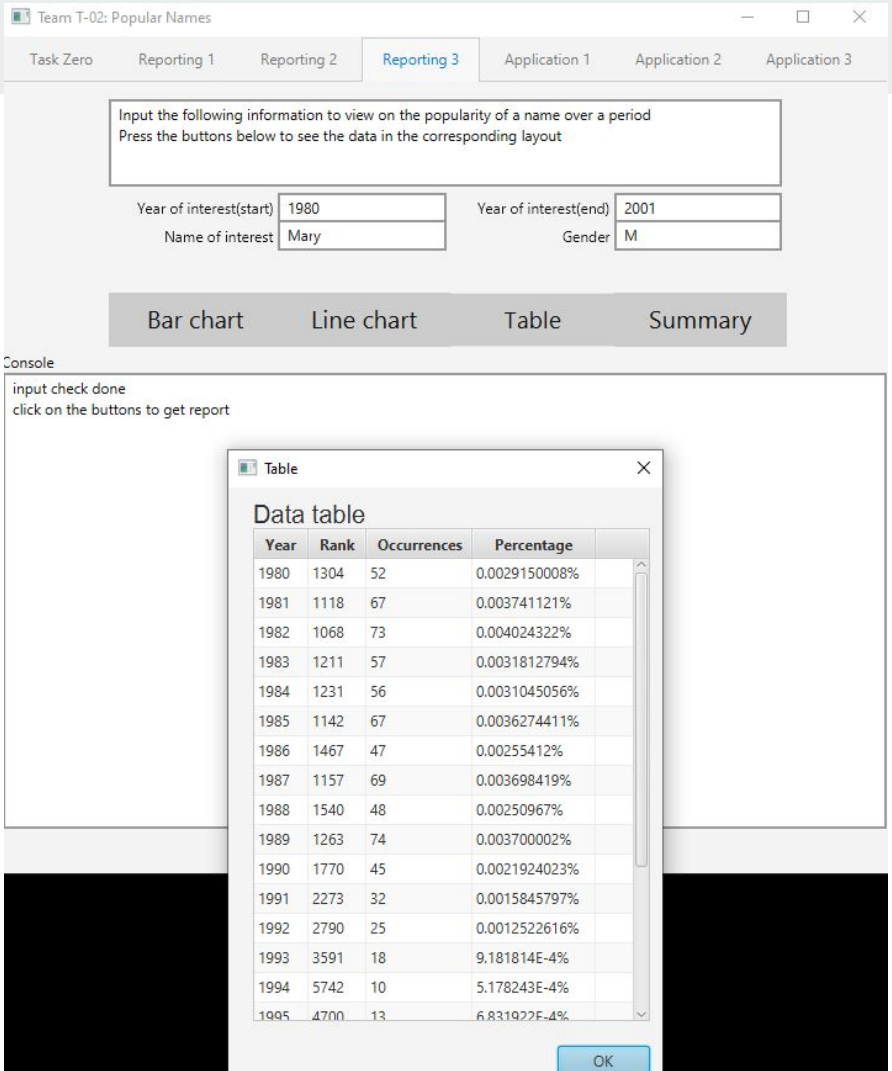
Task3 show table

after all the input checking

by clicking the table button

a popup will be shown

containing the table with the data of interest



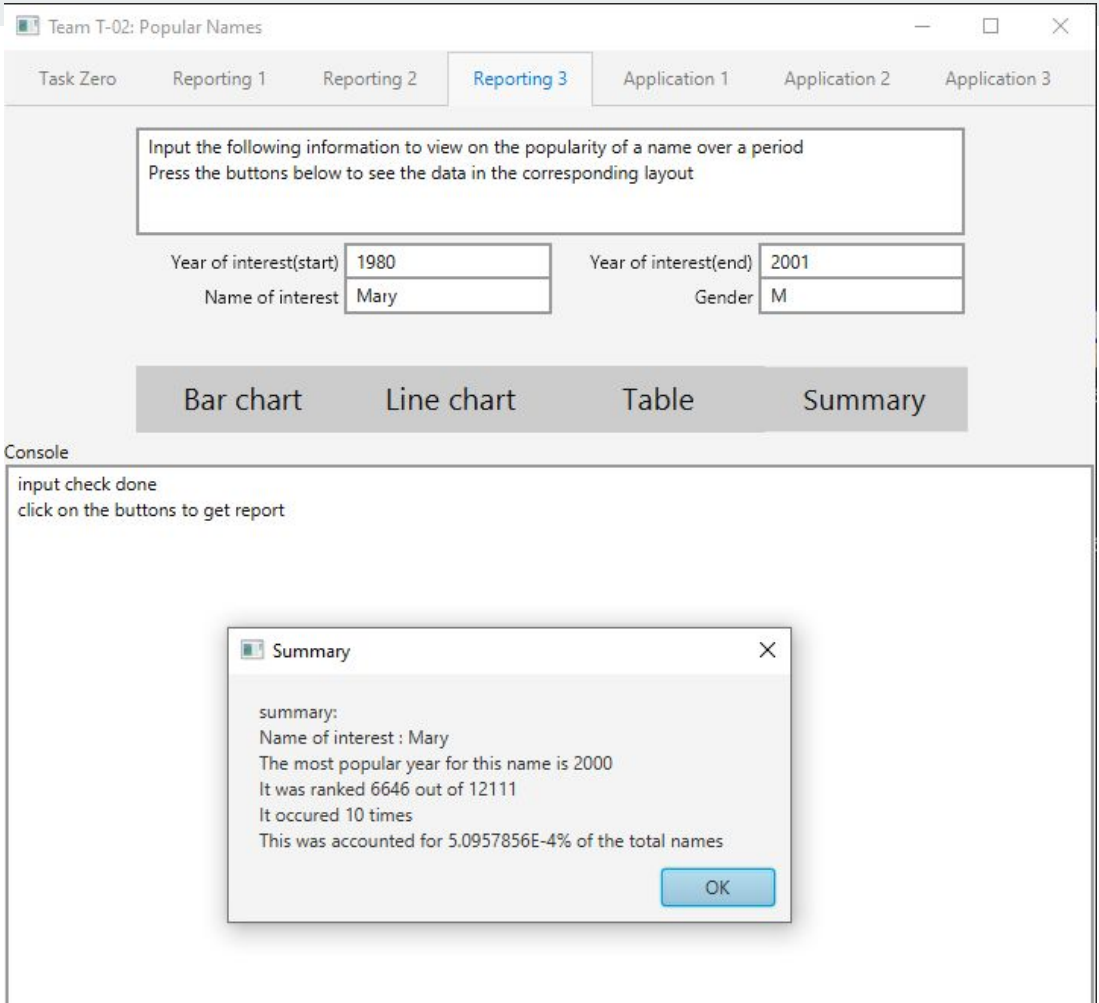
Task3 show summary

after all the input checking

by clicking the summary button

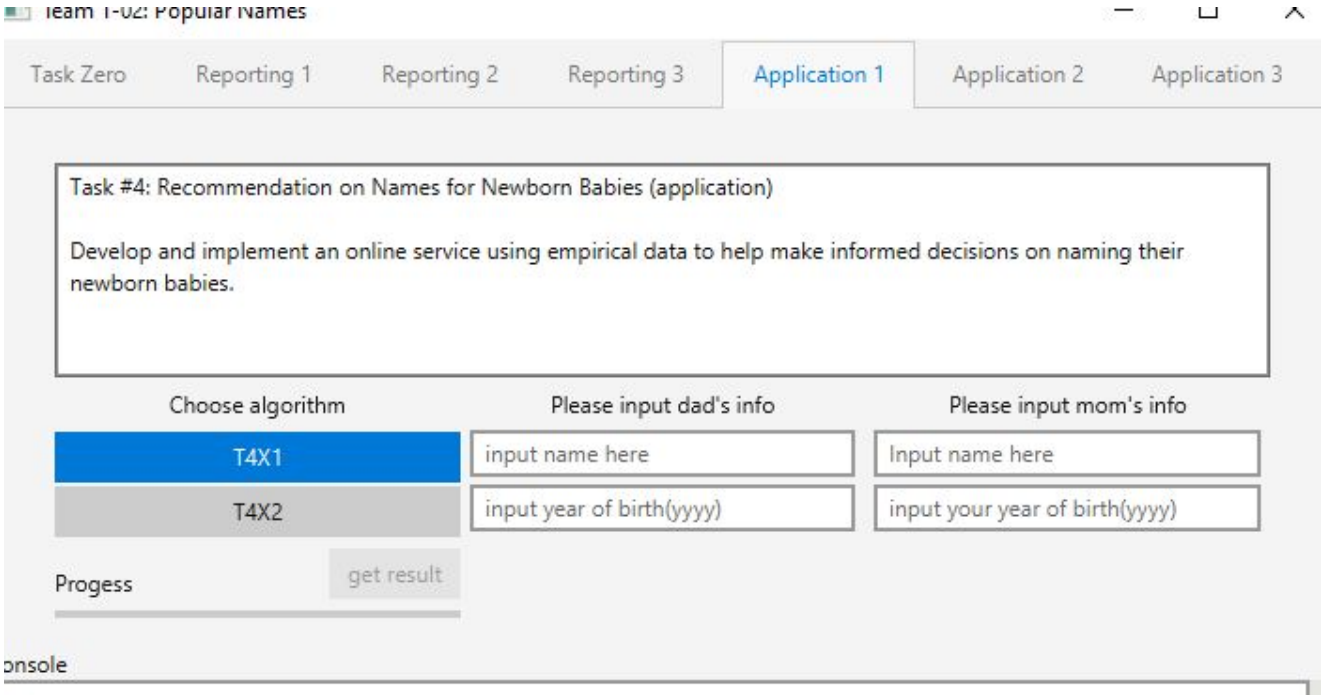
a popup will be shown

containing the summary



TASK 4 showcase

Task 4 User interface

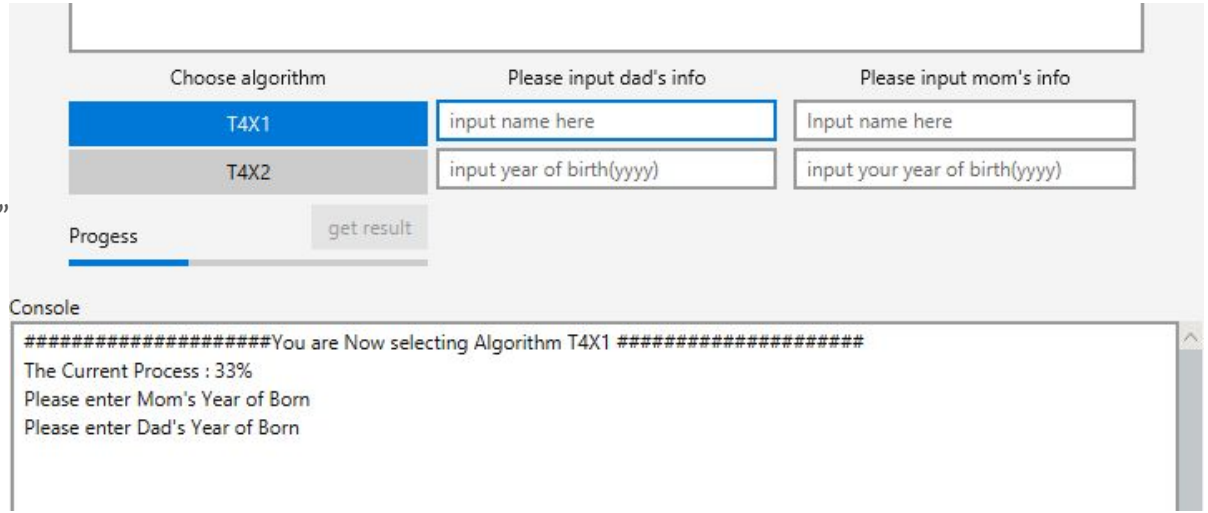


Task 4 : Name recommendation

- T4X1 we need the input of mom year of born and dad year of born.
- T4X2 we need the input of both mom and dad's name, year.
- need to select the algorithm and input the corresponding data
- if there are empty input and the input are required, the button will be disabled.
- there are progress bar and progress shown on the console

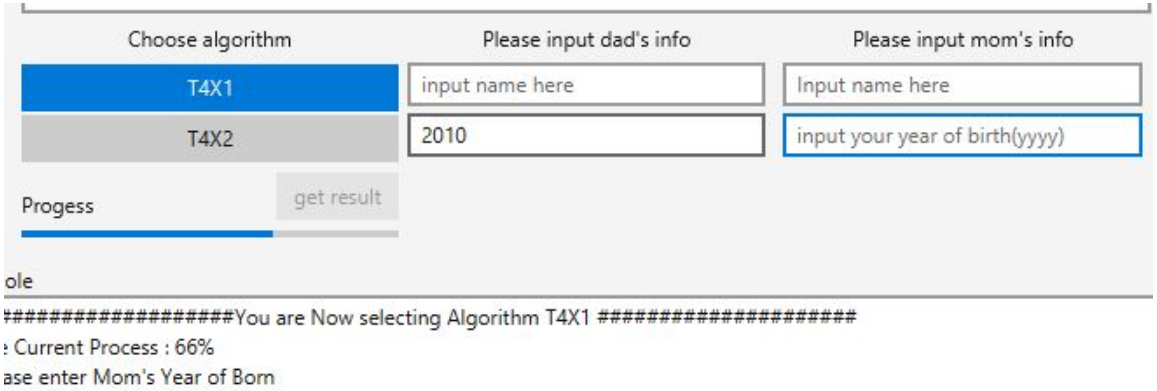
Task 4 T4X1

- T4X1 selected
- progress 33%
- Console show
- “Please enter Mom year”
- “Please enter Dad year”



Task 4 T4X1

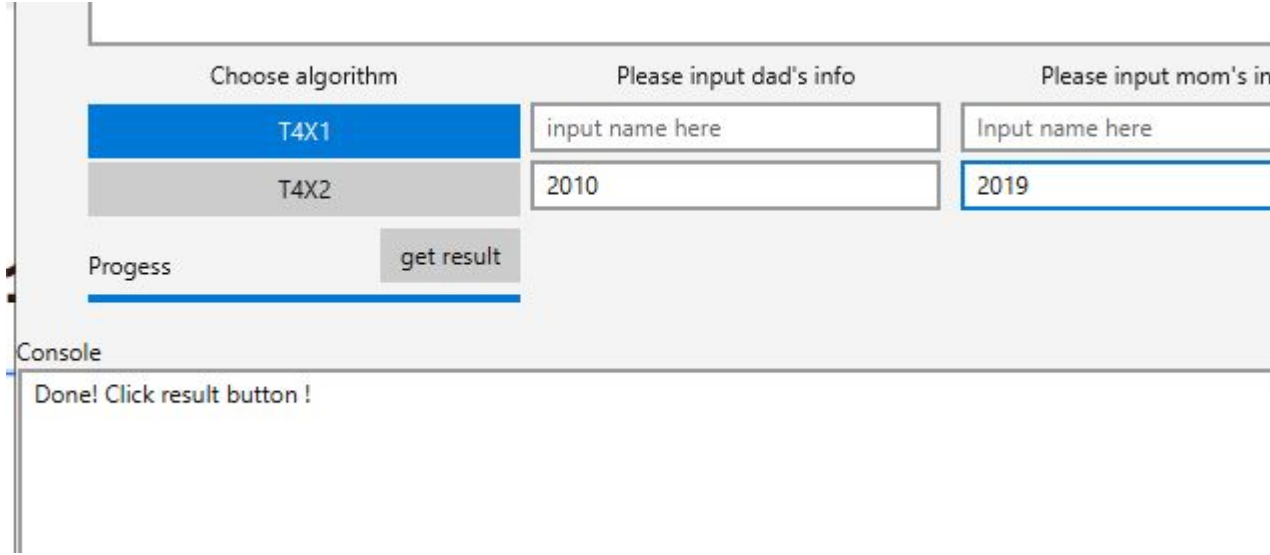
- T4X1 selected
- progress 66%
- Console show
- “Please enter Mom year”
- Since we enter dad info already



Task 4 T4X1

Done! Click result button! shown

- button get result is enable
- progress bar 100%
- message shown on console
- Iphone unlock sound display



Task 4 T4X1 OUTPUT

- invalid input of year(1880 - 2019)
- show windows of recommended name
- Male : most popular name on dad's year
- Female : most popular name on mom year
- SOUND effect display when it pop out
- icon of baby's face is shown
- click ok to exit ~

Task 4 T4X2 introduction

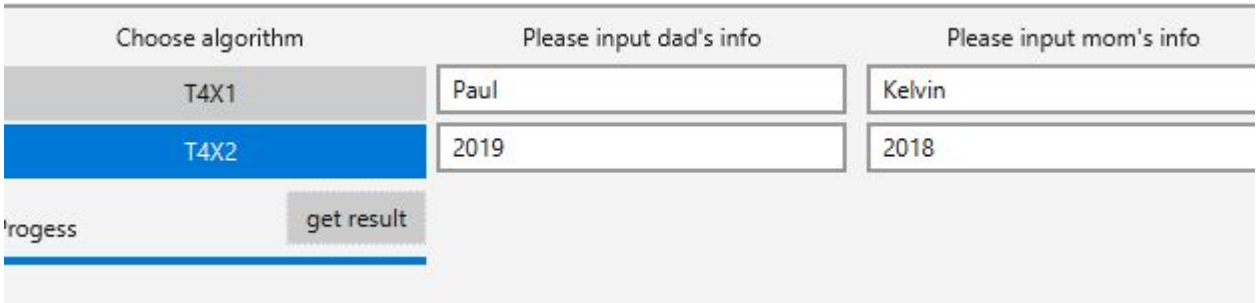
- Input we need to have “mom year of born”, “dad year of born”, “dad name”, “mom name”
- We randomly extract the english character from dad name or mom name
- Total number extracted will be equal or less than min length of mom name and dad name
- We take average between mom year of born and dad year of born
- We take random seed as sum of mom’s name length and dad’s name length
- We go to the dataset of the year we calculated, get a list of name
- the total number of the name list is determined by the min length of parent’s name
- So Top N of names will be extracted from the dataset, and calculate the score

Task T4X2 : Score calculation

- Since we randomly extract the english characters of parent's name.
- even if user enter name with lower case letter in first character, it automatically change
- We put the english character into hash map
- We extract the a list of name from the year of average of (MomYOB)(DadYOB)
- We compare the extracted English character from parent in hashmap and name list.
- once there are matched character between name list and hash, point ++;
- Finally, we use point / length of child name, calculate the score
- Once all of them are zero or the same, we will rank based on the popularity of the name

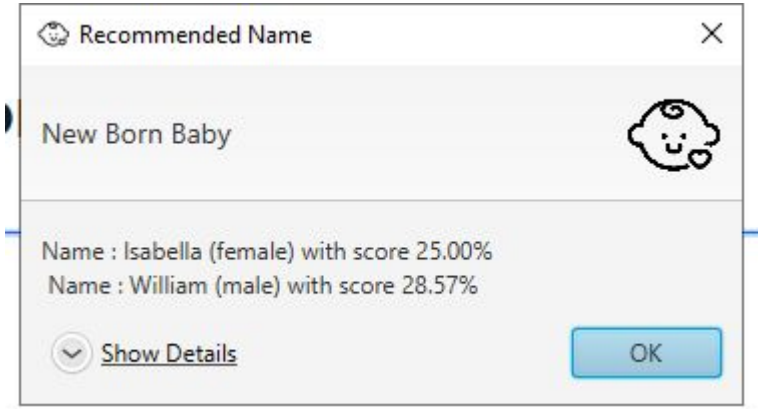
Task 4: T4X2 algorithm example

- we enter Paul and Cindy.
- 2019, 2018
- name list will be selected in (2019 +2018)/2 = 2018.5 = 2018



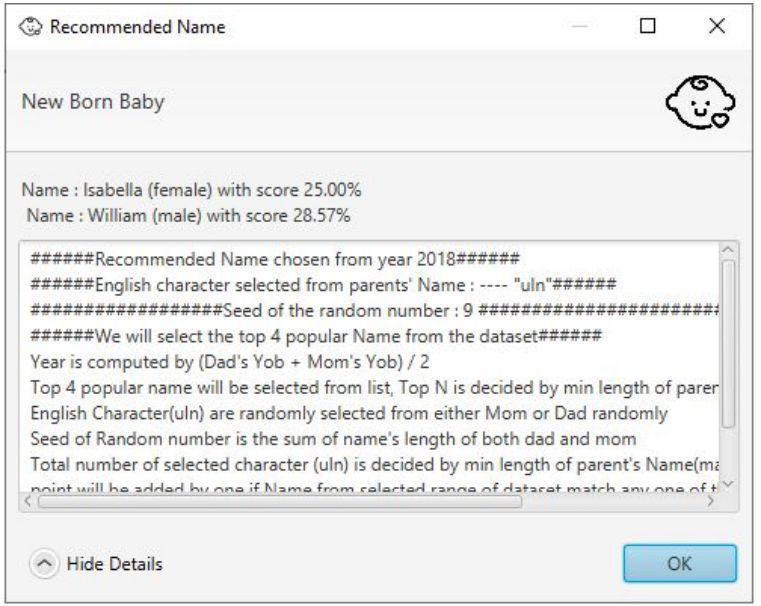
Task 4: T4X2 algorithm example

- We selected name Isabella (female)
- We selected name William (male)
- Sound effect displays
- icon shown
- Show Details options ~ [explain]



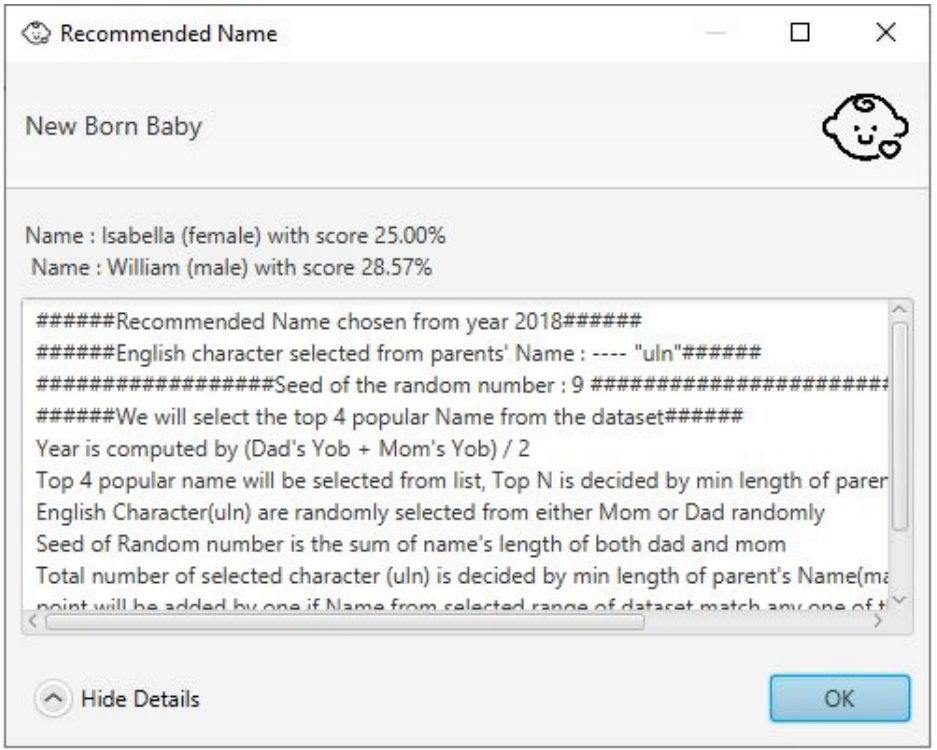
Task 4 : T4X2 Show details

- expand the detains
- show the details of year and characters
- number of popular name shown
- Seed of Random number
- “uln” is extracted from parent’s name
- 2018 is the year
- Top 4(min of parent’s name Cindy =4)



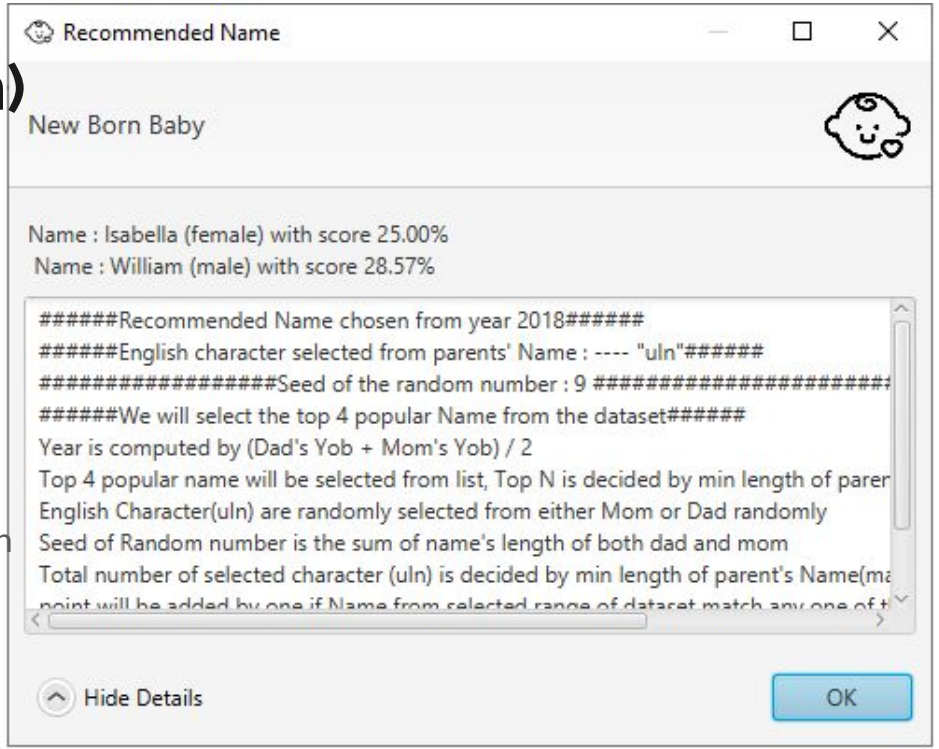
Task 4 T4x2 explain (Isabella)

- “u” from Paul
- “l” from Paul
- “n” from Cindy
- “isabella” length = 8
- matched character = 2 (l)
- score =2/8 *100 = 25%



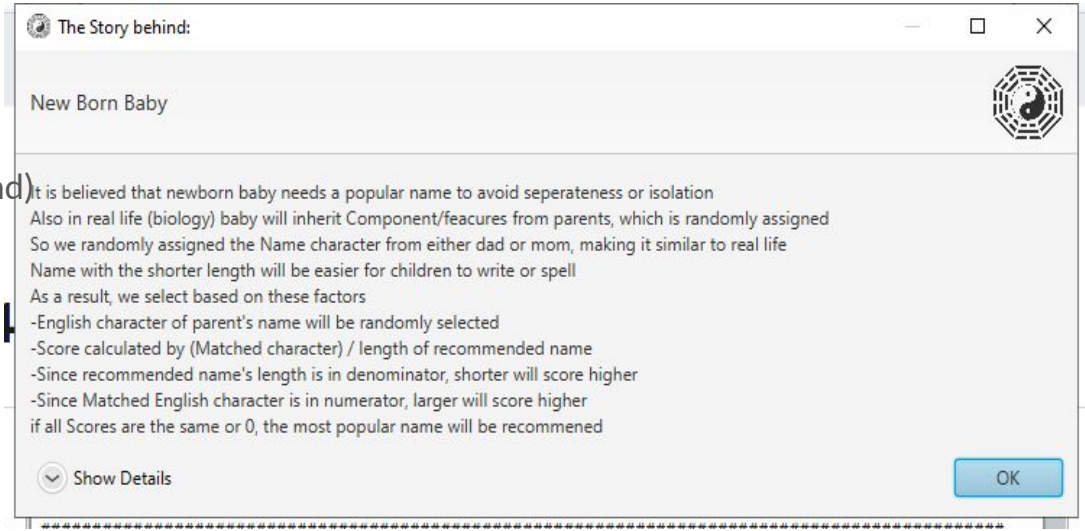
Task 4 T4x2 explain (William)

- “u” from Paul
- “l” from Paul
- “n” from Cindy
- “isabella” length = 7
- matched character = 2 (l)
- score =2/7 *100 = 28.57%
- you can see same matching but shorter length
- get highter score



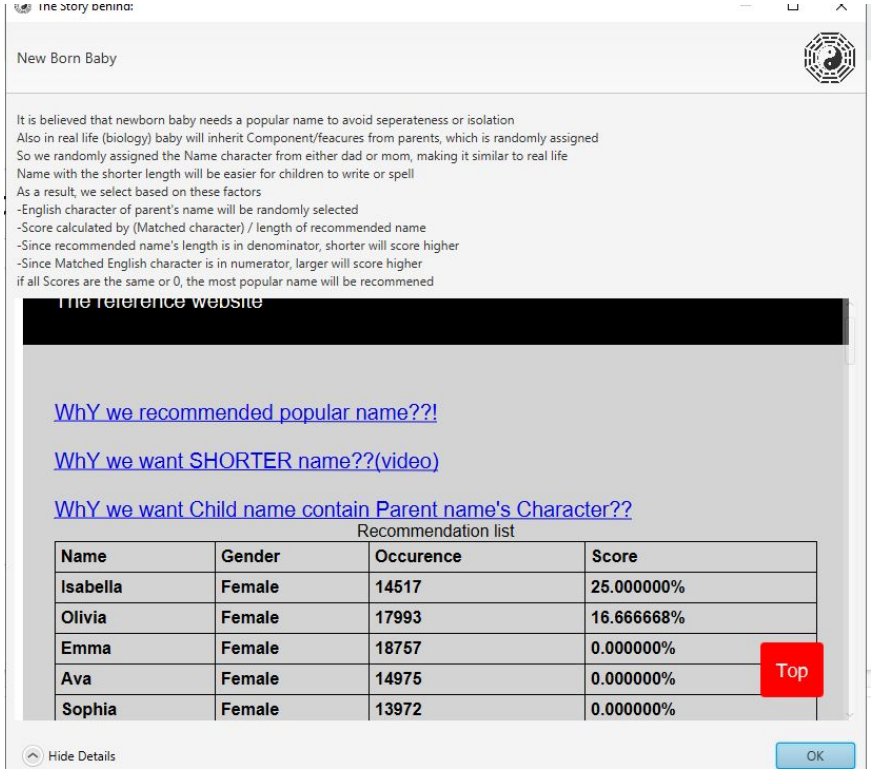
Task 4 T4x2

- After clicking OK before
- we show the second pop
- there is a “gossip array”“八卦” icon
- sound effect display (baby smile sound)
- Explaination will shown on this
- Click show details show a web page.



Task 4 T4X2

- there are hyper link
- tables show a list of recommended name
- right hand side corner [TOP] clickable
- once click it it will go to top of website.
- [TOP] will push you to the top of website



Task 4 T4X2

- name
- gender
- occurence
- score
- rank decending
- Top clickable

Name	Gender	Occurence	Score
Isabella	Female	14517	25.000000%
Olivia	Female	17993	16.666668%
Emma	Female	18757	0.000000%
Ava	Female	14975	0.000000%
Sophia	Female	13972	0.000000%
William	Male	14590	28.571430%
Oliver	Male	13461	16.666668%
Liam	Male	19915	0.000000%
Noah	Male	18350	0.000000%
James	Male	13589	0.000000%

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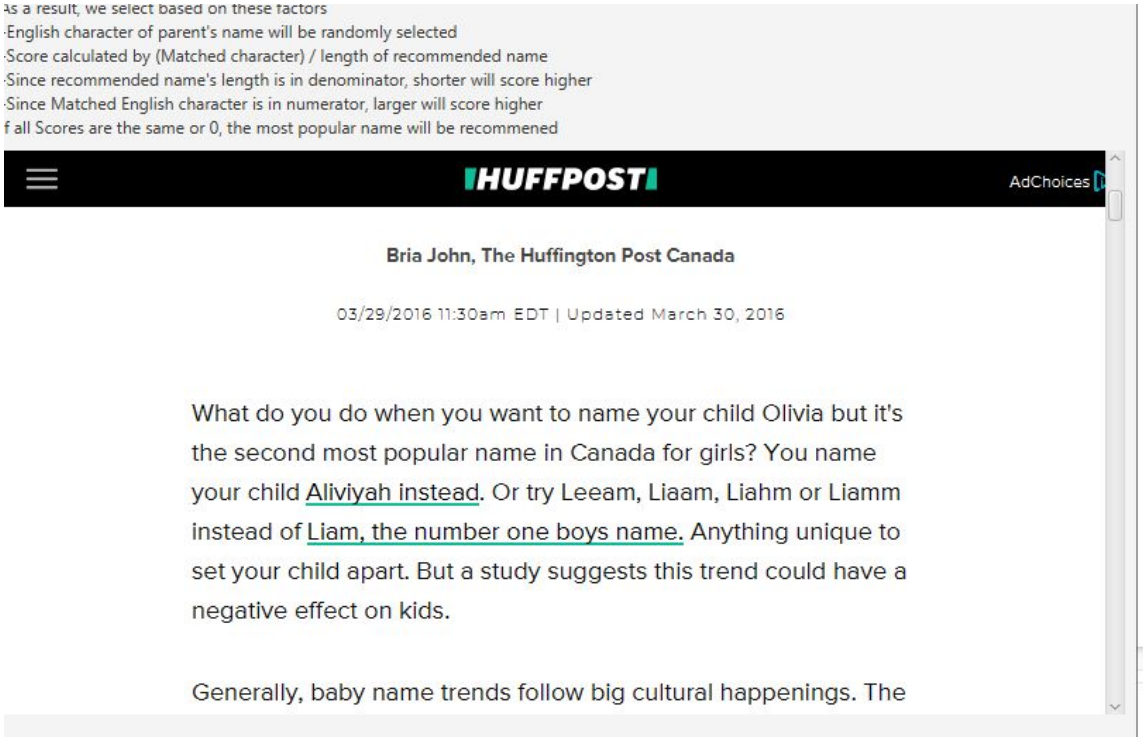
Top

Task 4 T4X2

- Links are clickable
- you can go to this web
- embedded in the windows
- reference explanation

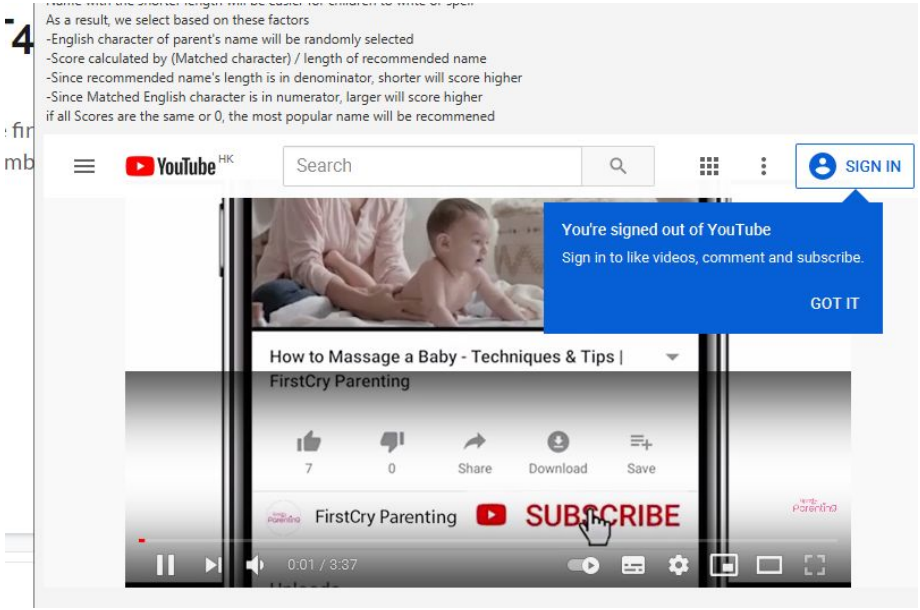
Task 4 T4X2

- Click the first hyper link
- Article embedded



Task 4 T4X2

- hyperlink to video
- show reason why we select shorter name

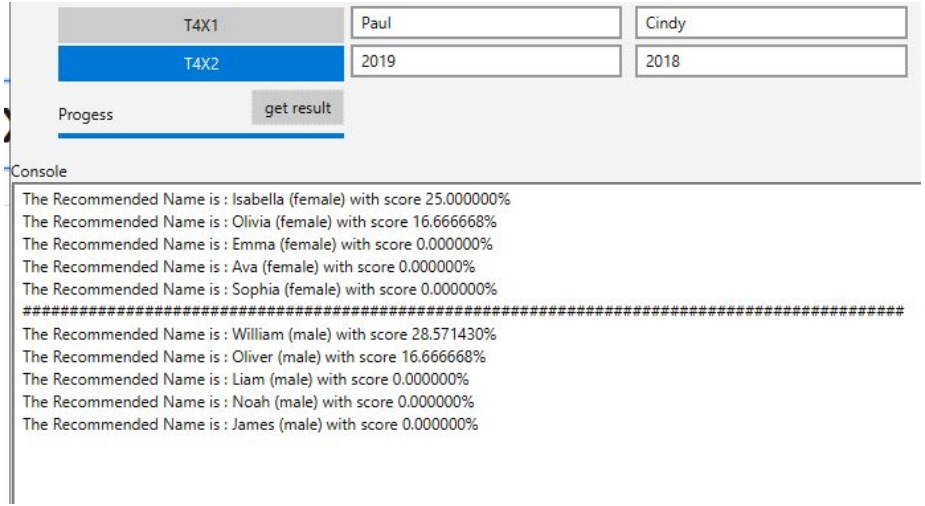


Task4 T4X2


So we randomly assigned the Name character from either dad or mom, making it similar to real life
Name with the shorter length will be easier for children to write or spell
As a result, we select based on these factors
-English character of parent's name will be randomly selected
-Score calculated by (Matched character) / length of recommended name
-Since recommended name's length is in denominator, shorter will score higher
-Since Matched English character is in numerator, larger will score higher
if all Scores are the same or 0, the most popular name will be recommened
verywell family
Table of Contents
Advertisement
NEW
全新鑽光透薄修護粉底液 一抹透現原肌光采
立即選購
Advertisement
women can start this tradition, too.
You may also wish to consider traditions that involve:
Giving a tribute to deceased relatives
Honoring your heritage and ancestry
Maintaining a brand of initials (the same initials for everyone in the immediate family)
Hide Details
OK

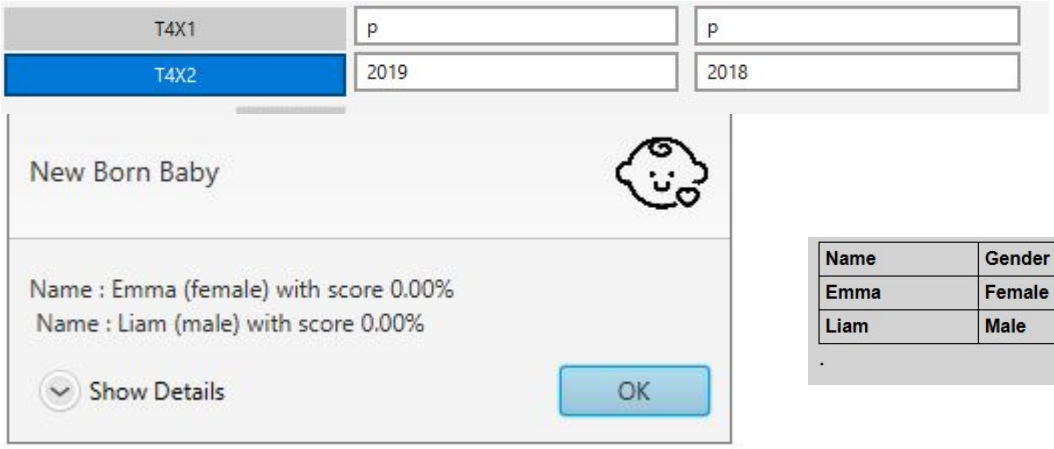
Task 4 T4X2

- ranked name will shown on console



Task 4 T4X2

- What if the score zero or the same as the other score ????
- We give recommendation according to the popularity
- Performs like T4X1, but year is different. (MomYOB + DadYOB) /2



Name	Gender	Occurence	Score
Emma	Female	18757	0.000000%
Liam	Male	19915	0.000000%

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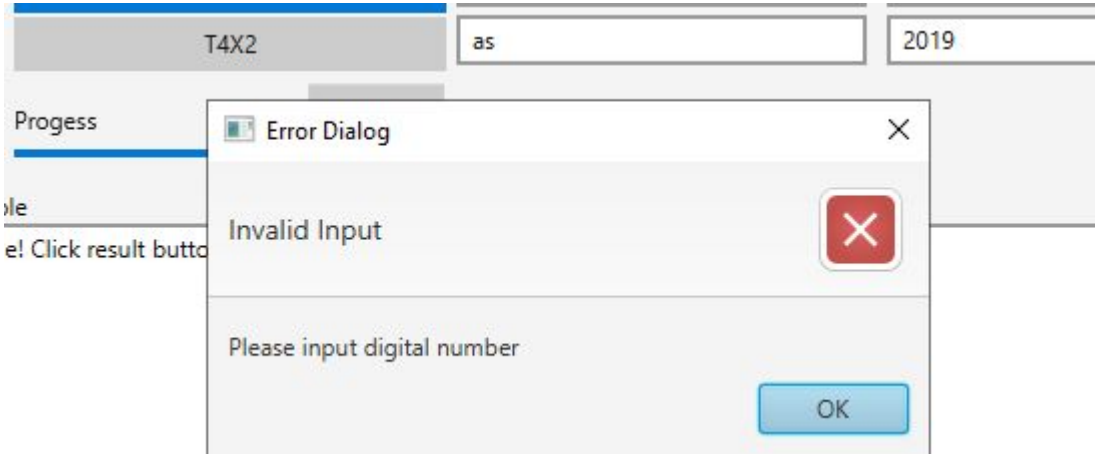
Task 4 T4X2 RULE EXPALIN

- it makes sense that if we input in random massive english character which is not name we will give score more likely to zero, and make recommendation according to year of born as information.
- Score = point / name length, so the recommended length shorter is an advantage
- point = matched hash map english character from parent's feature, match more higher
- Same score, will base on popularity to do ranking, make popular one an advantage
- Random selection of parent's name component using seed (mom name length +dad name length)
- always give the same result even it is random.
- Randomness is because baby features actually are quite random
- get name component because we want baby has inherit something from parent's name
- get average of the year is because we want gender equality, both parent has right decide name
- Shorter and popular , we want baby makes friend with other easily by easy name and not weird name

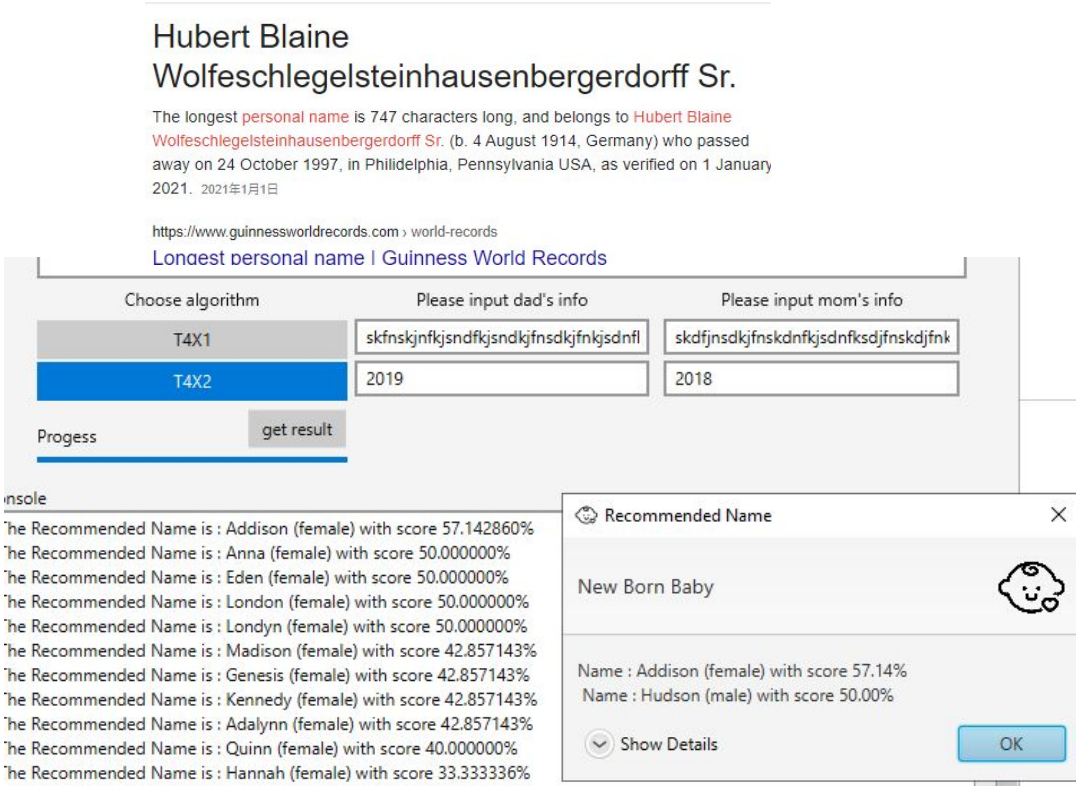
Task 4 invalid input

- we do not accept non numerical value in the year of born
- it shows error dialog with default sound effect with icon cross.
- Click ok to exit, means user has to read the message.



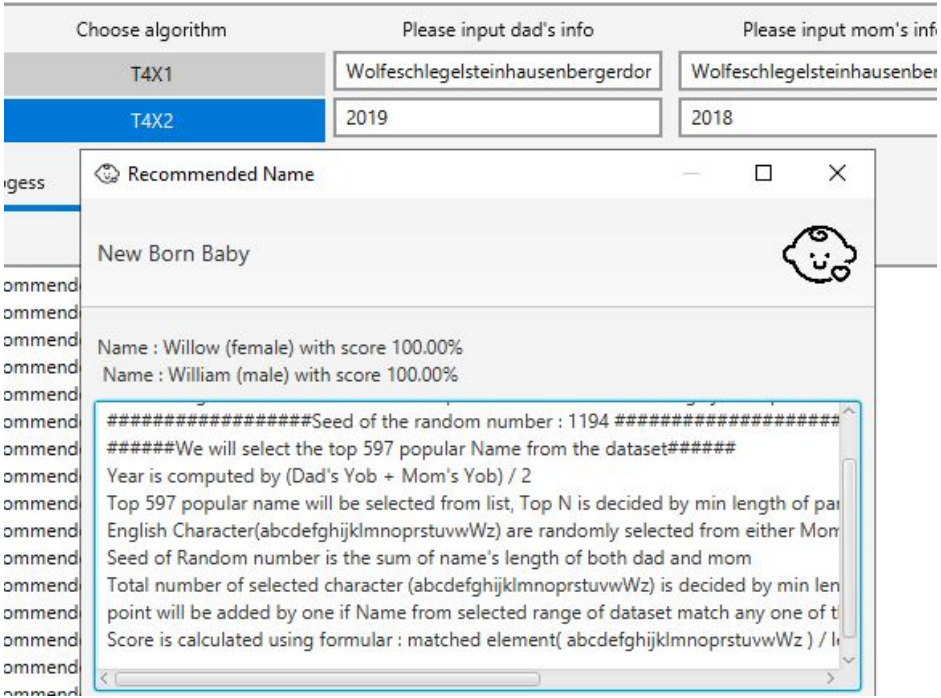
Task 4 name input

- no restriction length
- But it will take long time if you enter long name
- if you randomly input a long English string it is ok but it is recommended to enter name

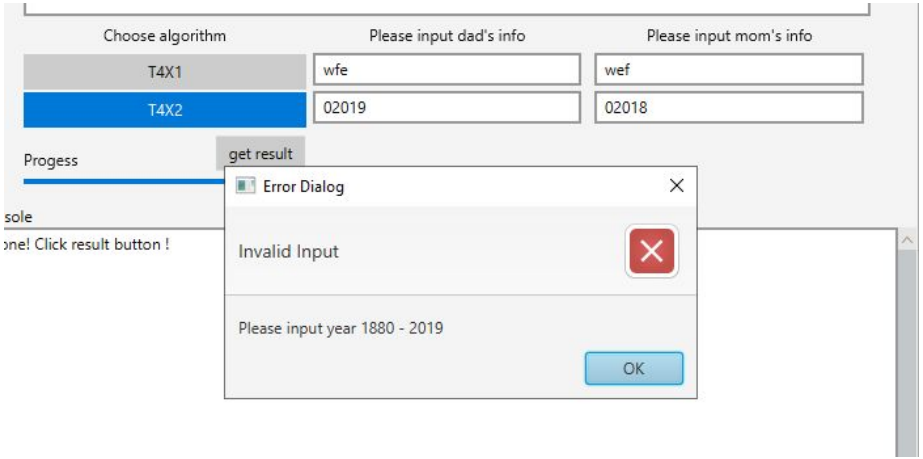


Task4 T4X2 limitation

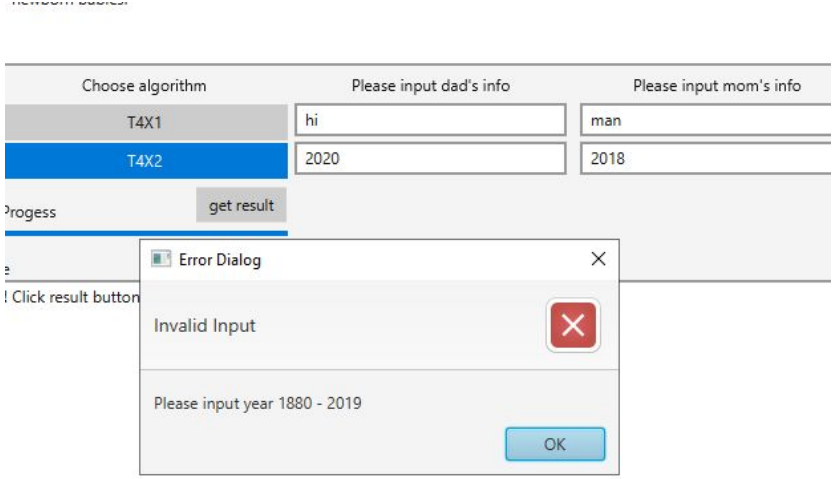
- Longer name more likely to get 100%
- but we will exclude child name same as the parent name
- long name takse more time
- the example show 700 character



Task 4 invalid input zero digit

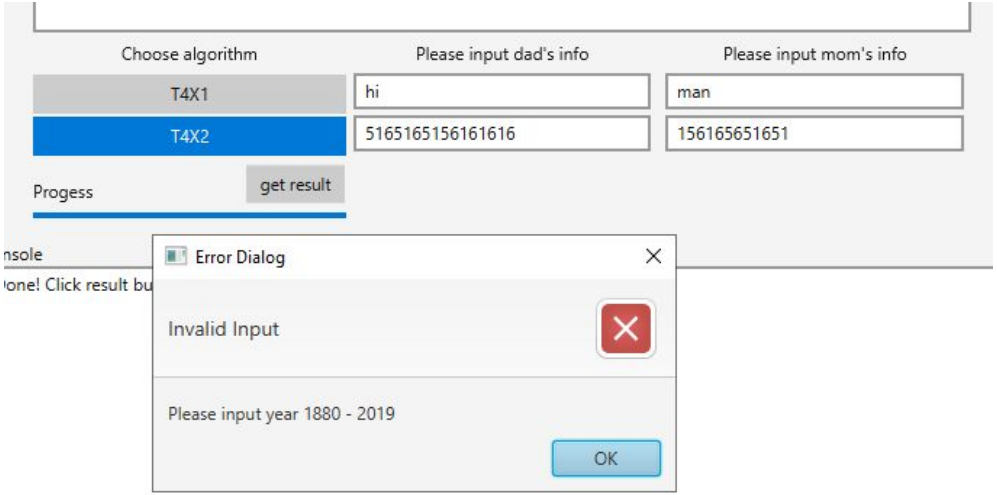


Task 4 out of range

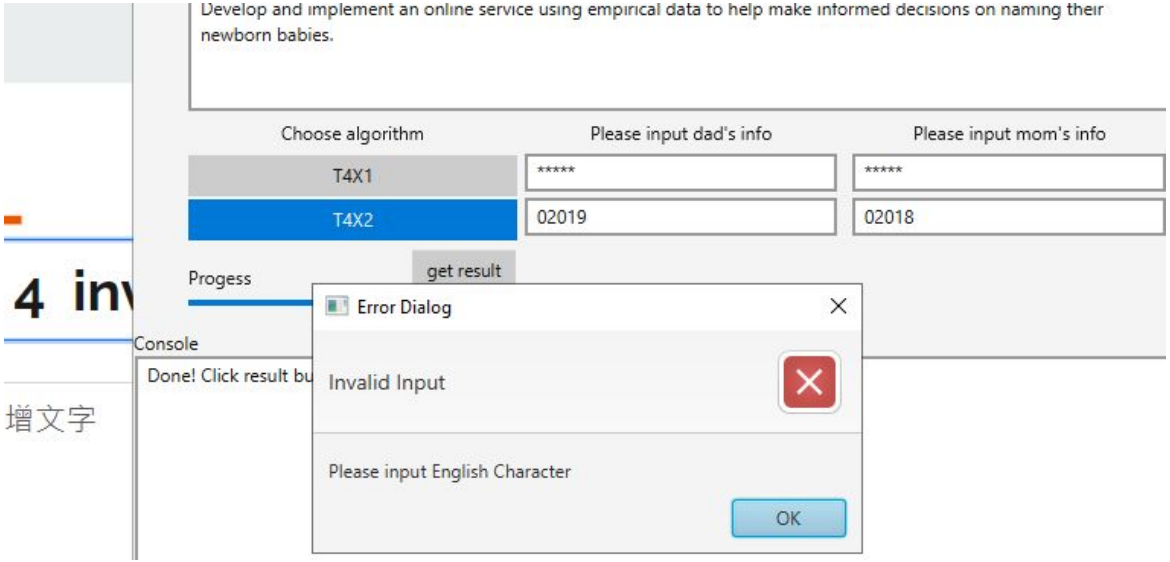


Task 4 overflow number prevention

- There are possible risk of error , if enter large number length



Task 4 invalid input Non English character(Name)



Task 4 Conclusion

- Parents always worry about naming of their child
- the system give the quality recommendation with clear explanation
- if you have any question feel free to email pwliuab@connect.ust.hk
- I will be happy to answer.

TASK 5 showcase

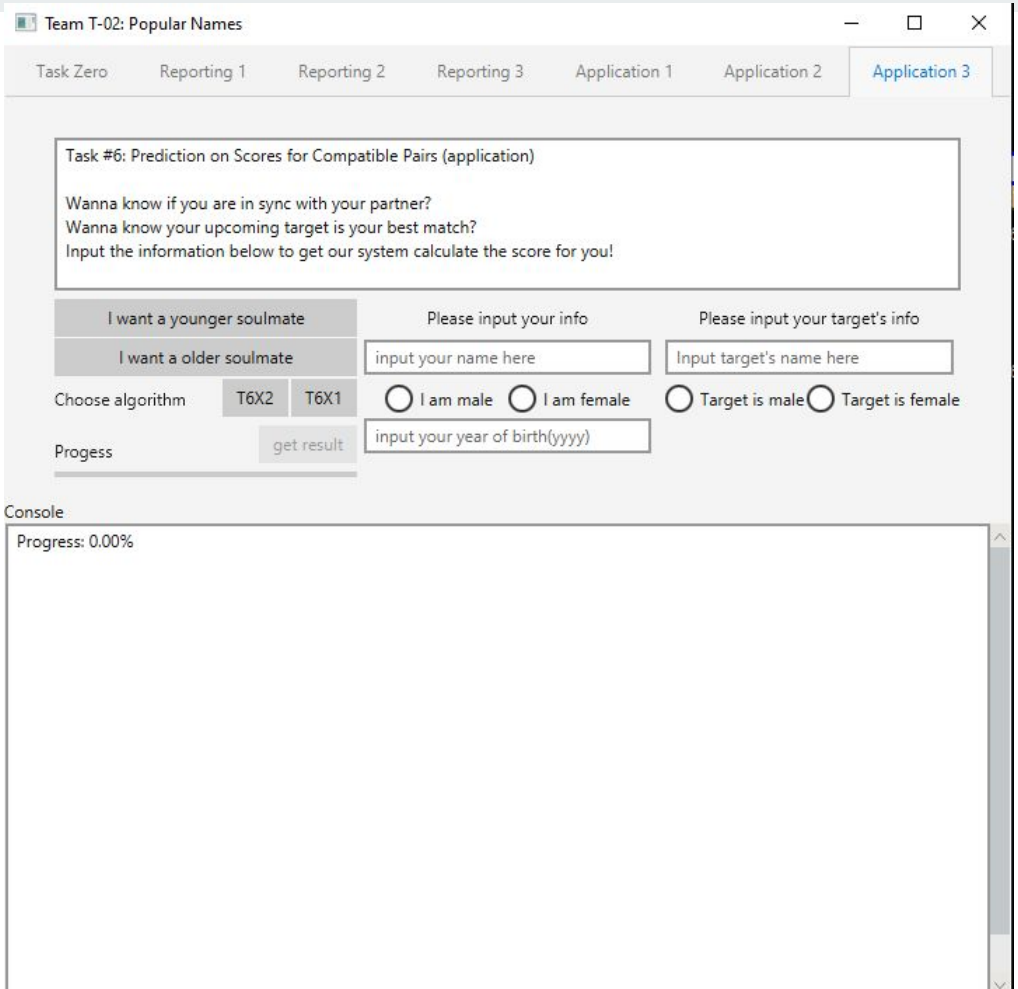
TASK 6 showcase

task6 safeguard Progress 0/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

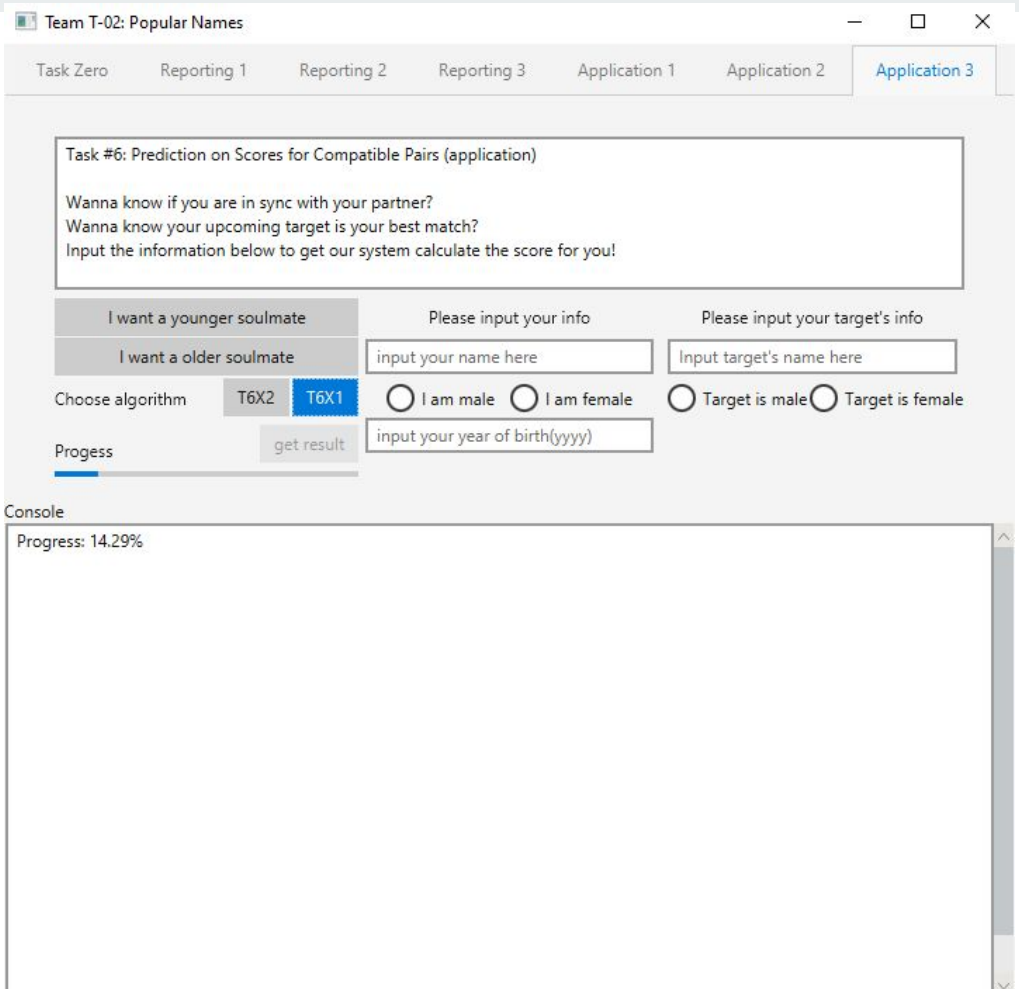


task6 safeguard Progress 1/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

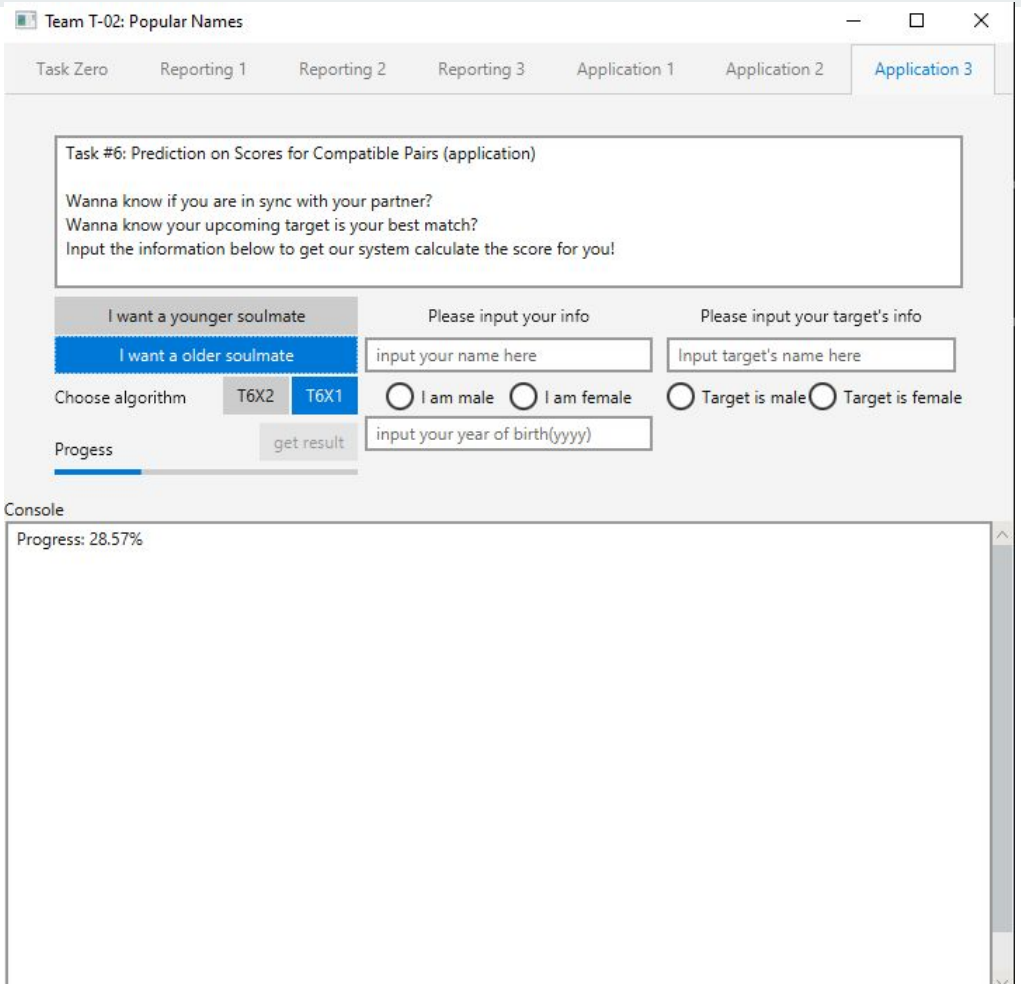


task6 safeguard Progress 2/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

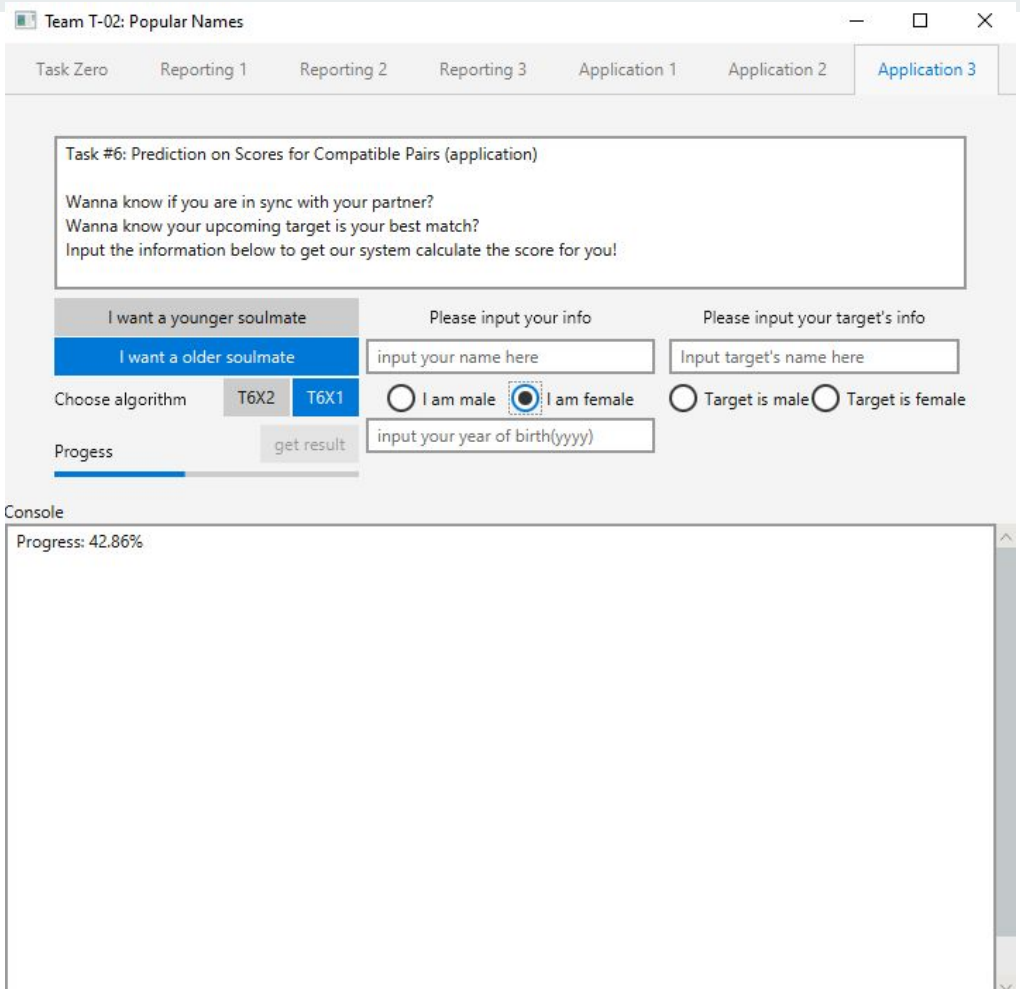


task6 safeguard Progress 3/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

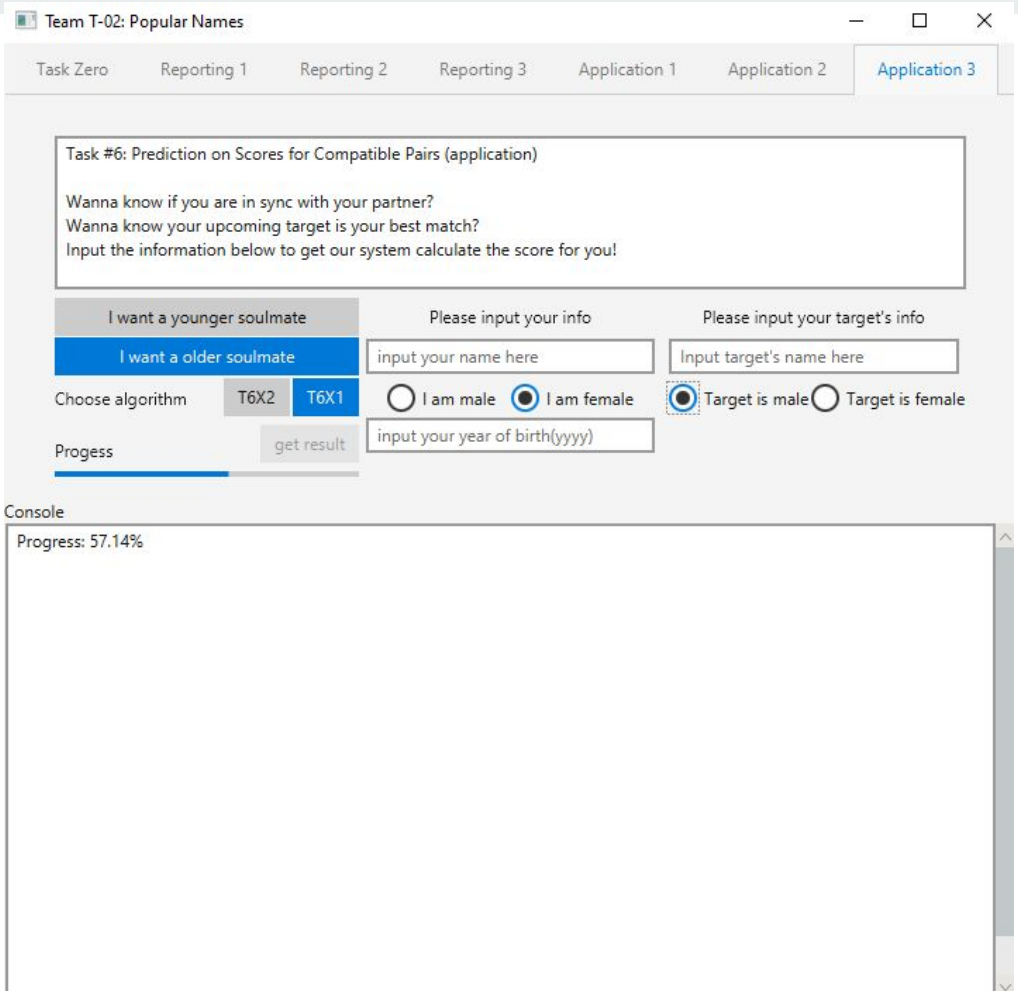


task6 safeguard Progress 4/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

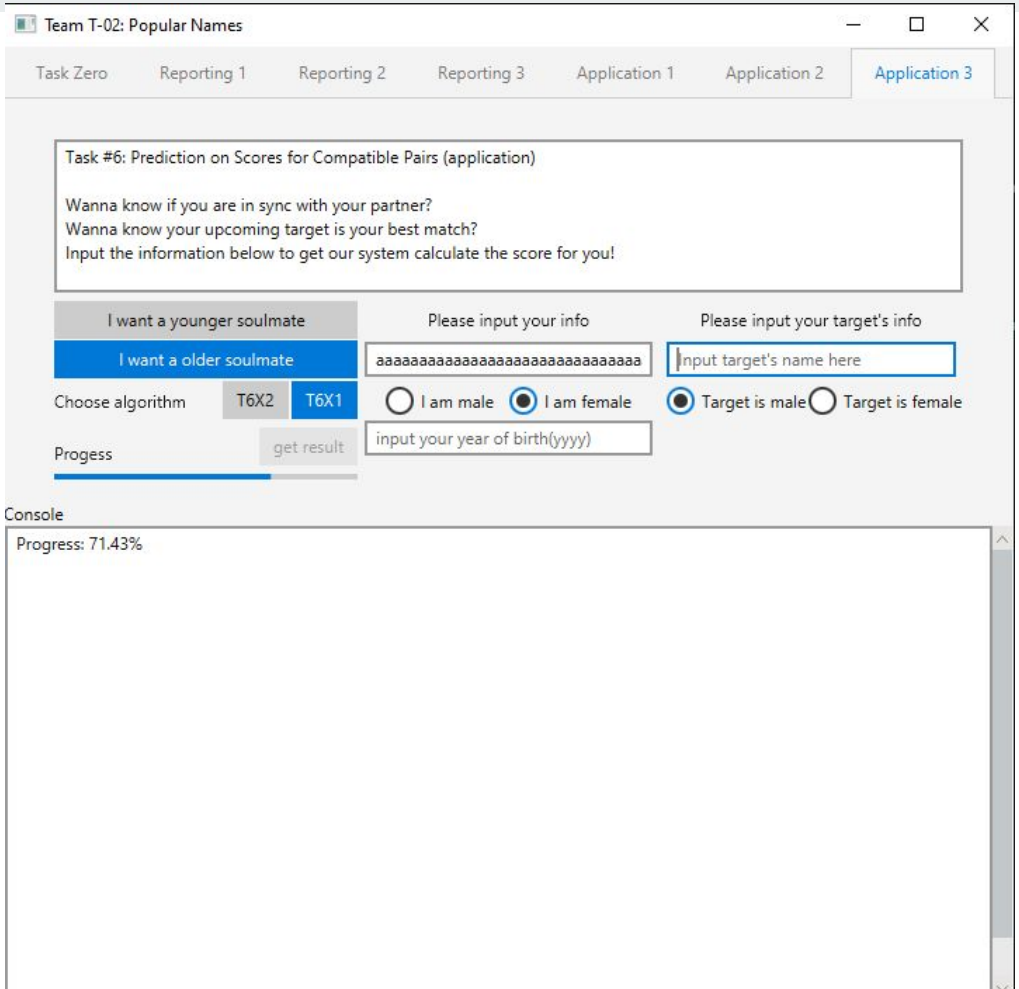


task6 safeguard Progress 5/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

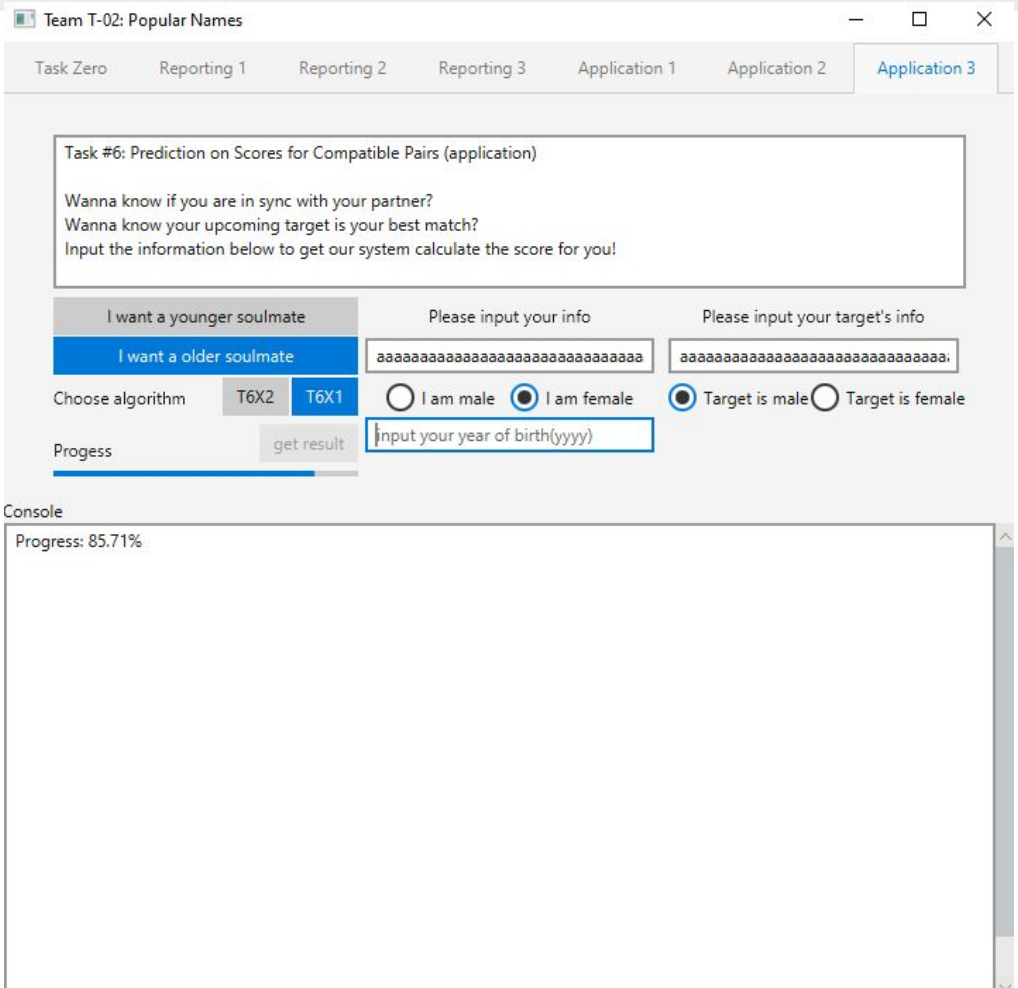


task6 safeguard Progress 6/7

The get result button will be locked if the input is empty

a progress bar and console output will hint the user what is the progress so far

Input checking in not done in this stage

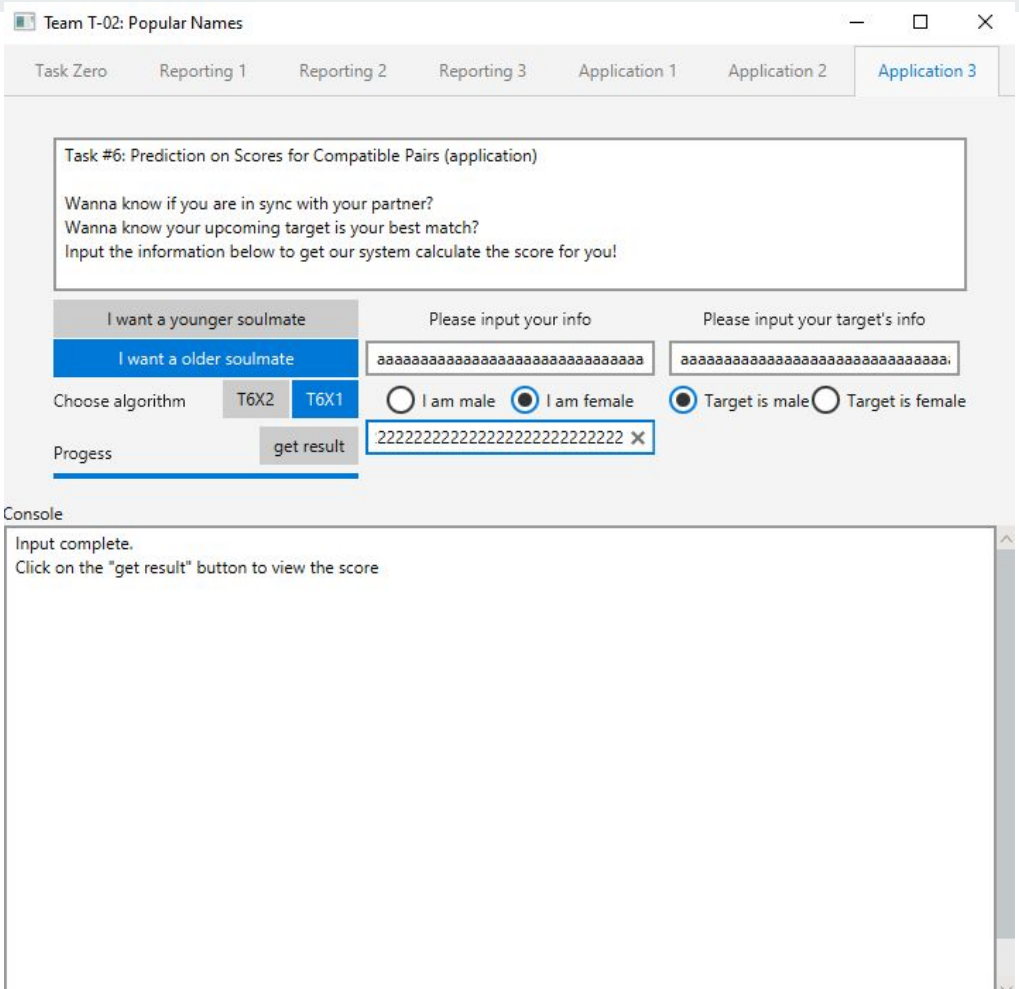


task6 safeguard Progress 7/7

Once all the data has been filled

The get result button will be unlocked

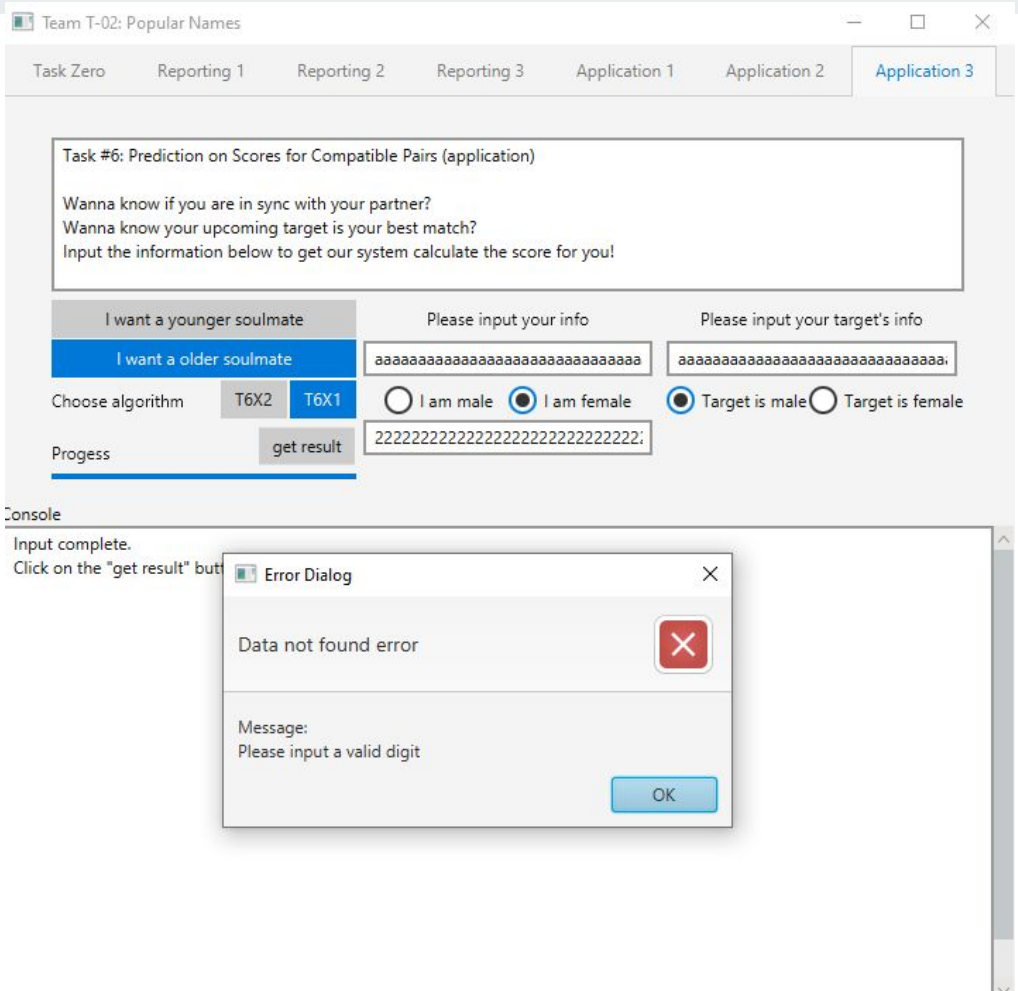
and the user can progress



task6 input validation

after the user clicked on the get result button

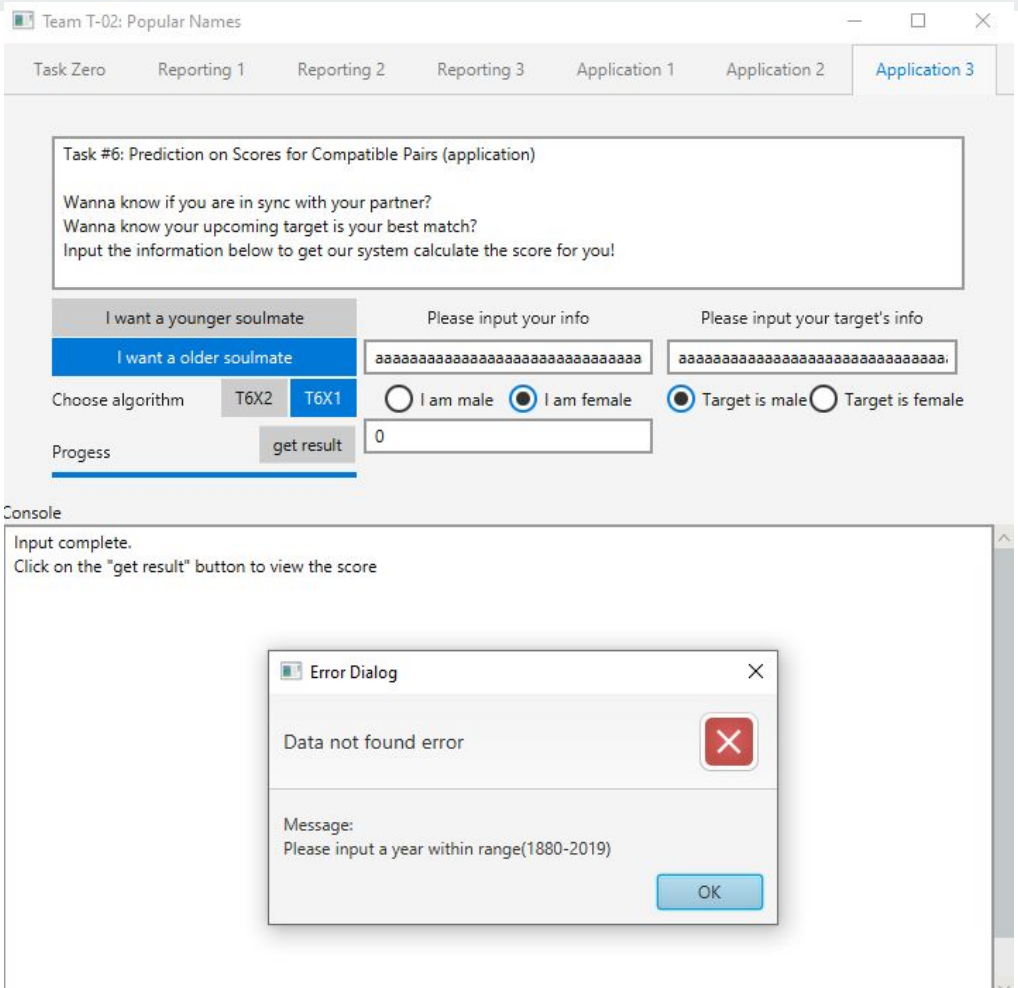
a alert will appear and signal the user to input valid digit



task6 input validation

after the user clicked on the get result button

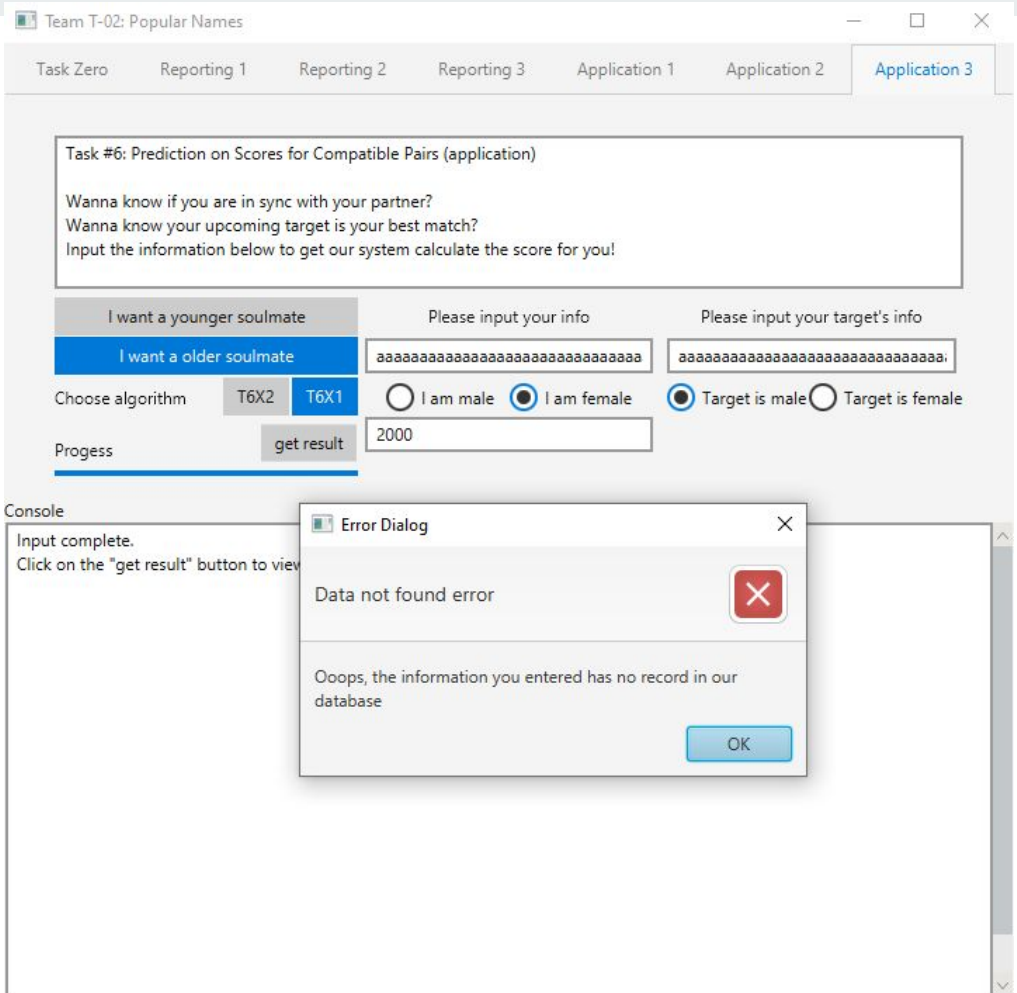
a alert will appear and signal the user to input year within range



task6 input validation

if any of the name does not exist in the record or is not valid

a alert will appear and signal the user to change the name

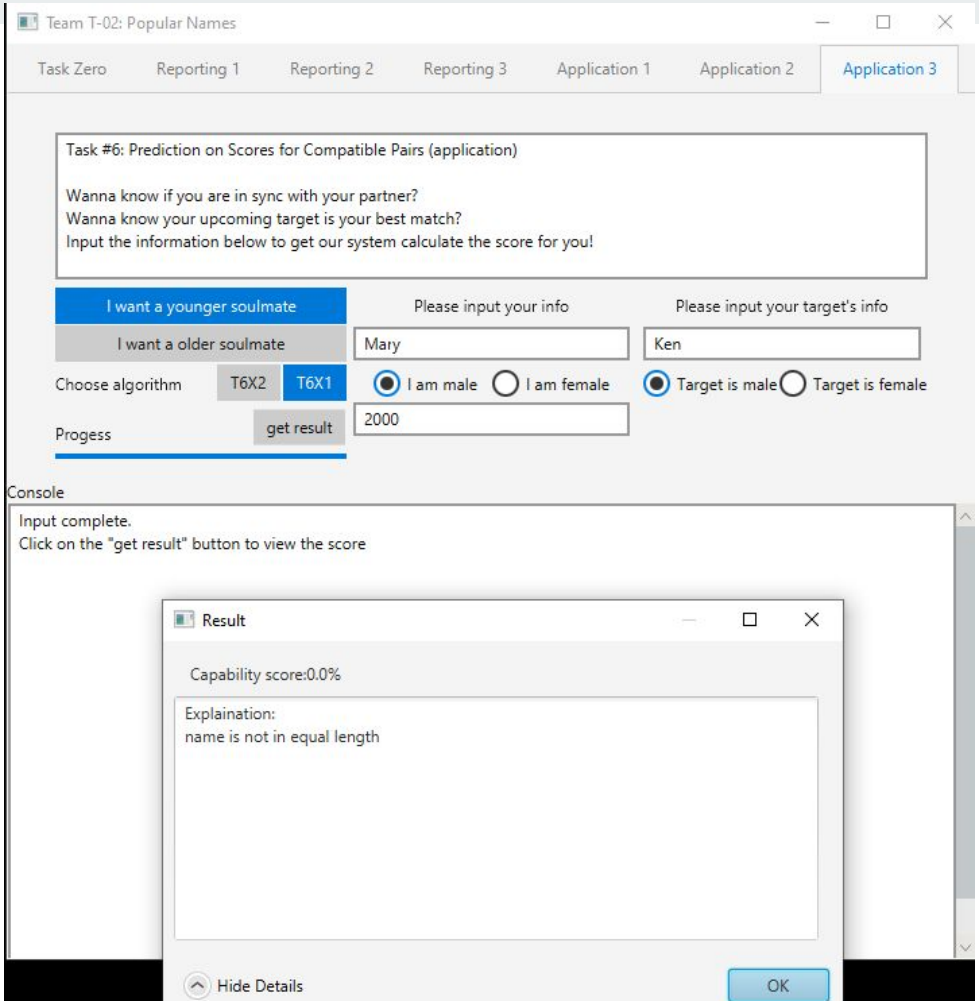


task6 output
T6X1

If the selected algorithm is T6X1

the result will show 100% if the name is in equal length; 0% otherwise

result will be shown on alert
with explanation append after that

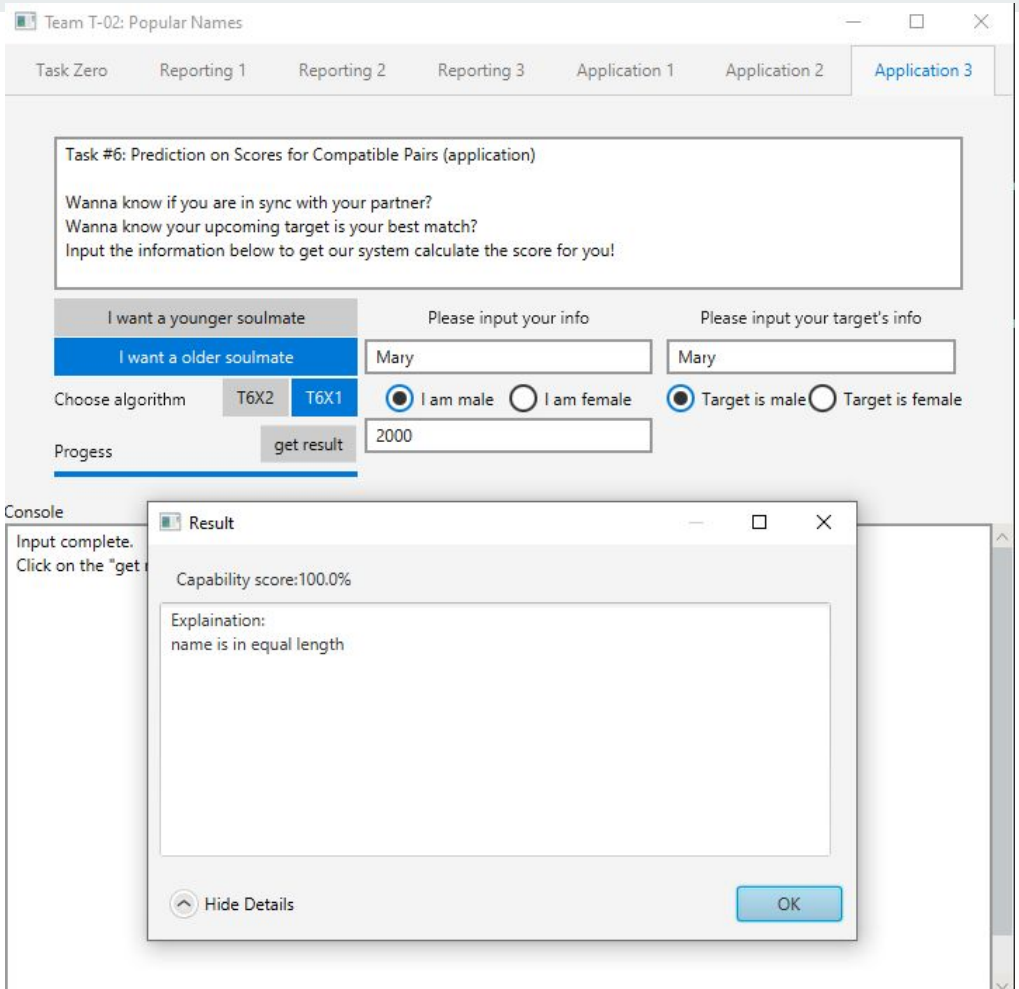


task6 output
T6X1

If the selected algorithm is T6X1

the result will show 100% if the name is in equal length; 0% otherwise

result will be shown on alert
with explanation append after that

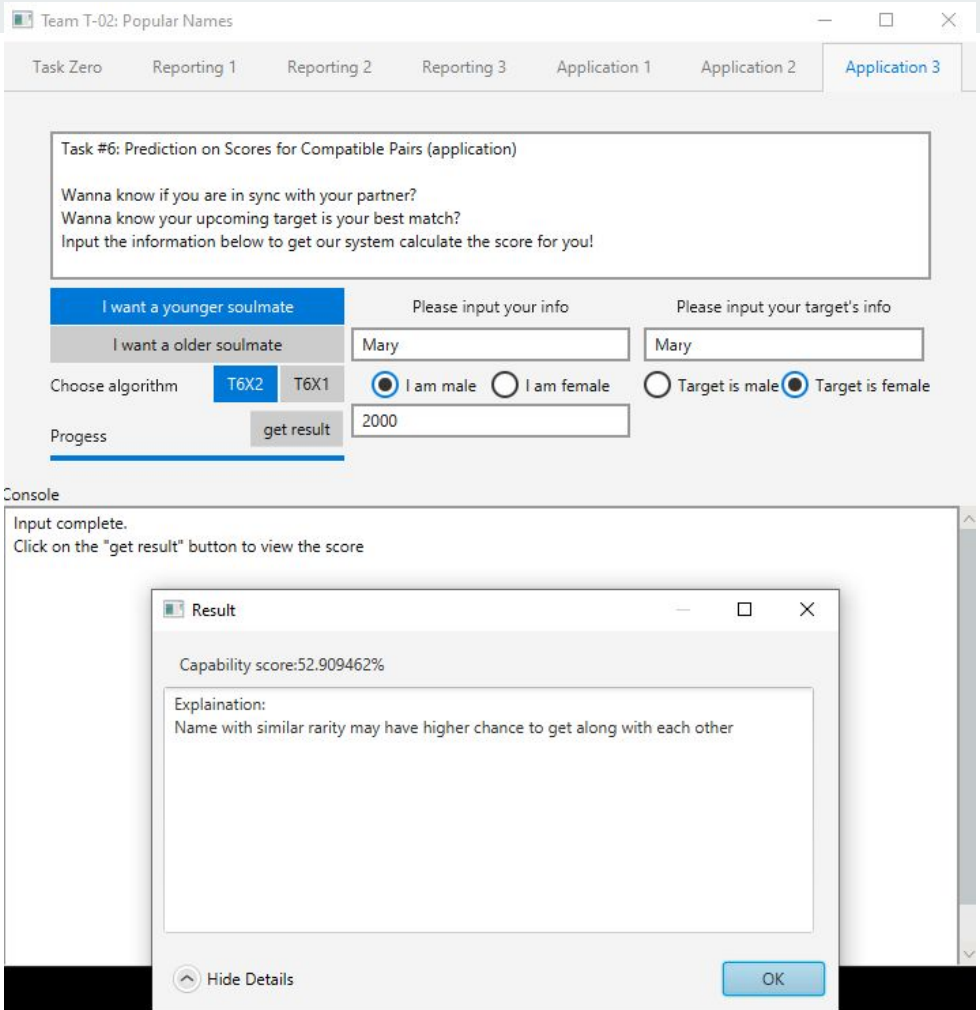


task6 output T6X2

If the selected algorithm is T6X2

the score will be deducted if:
-length is not the same
-rarity is not the same

result will be shown on alert
with explanation append after that

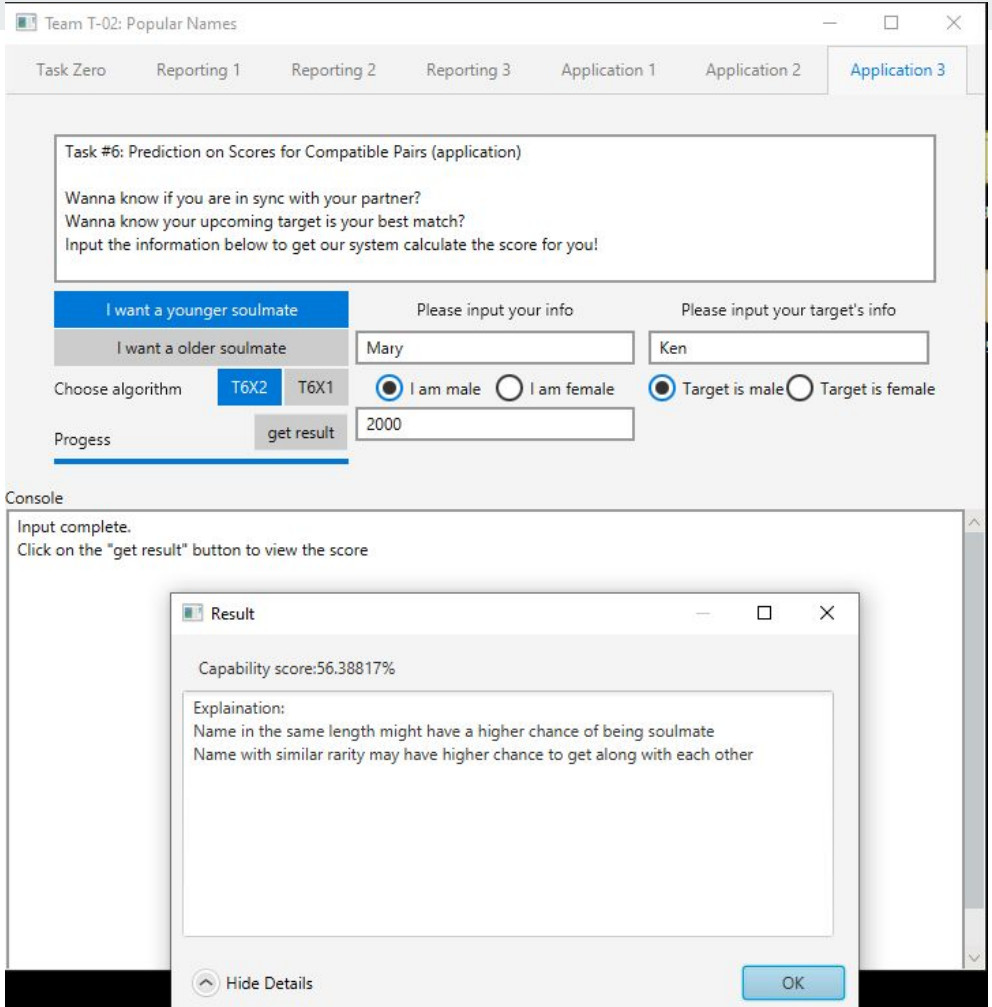


task6 output T6X2

If the selected algorithm is T6X2

the score will be deducted if:
-length is not the same
-rarity is not the same

result will be shown on alert
with explanation append after that

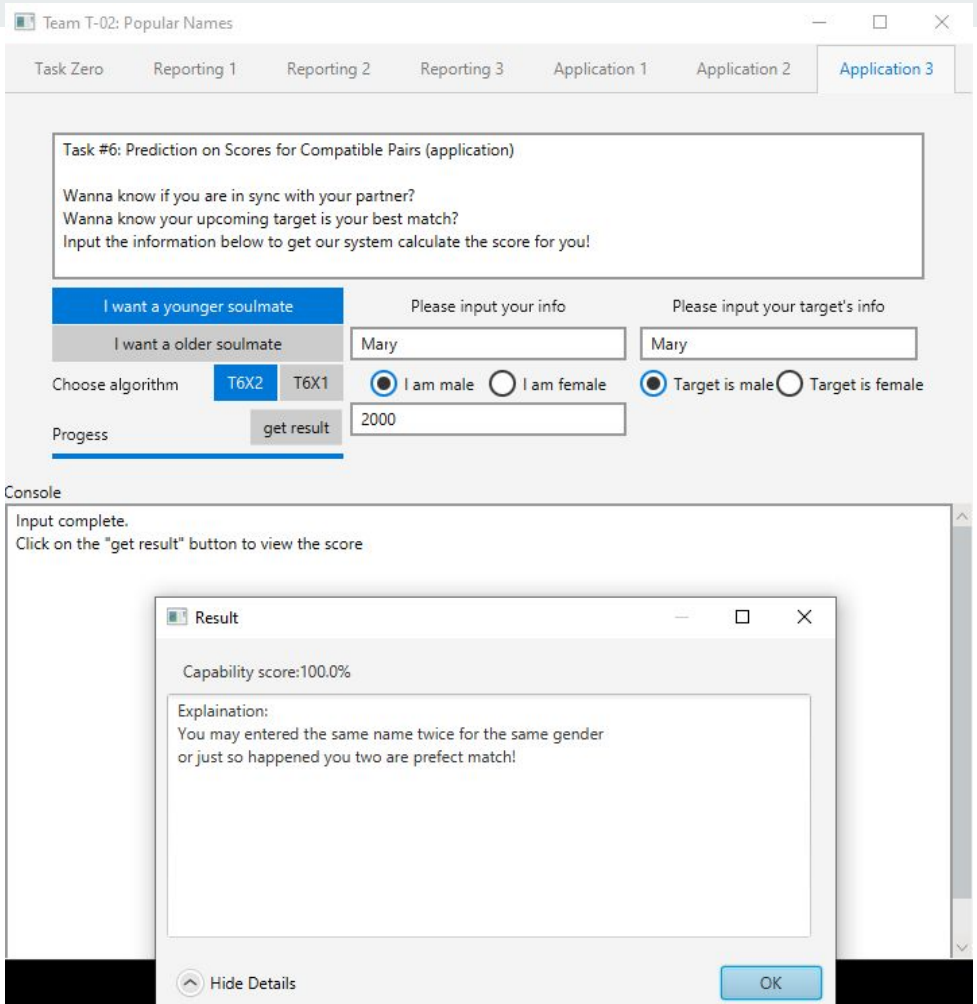


task6 output T6X2

If the selected algorithm is T6X2

the score will be deducted if:
-length is not the same
-rarity is not the same

result will be shown on alert
with explanation append after that



COVERAGE REPORT

TESTCASE SUMMARY

JAVADOC

location : ./build/docs/javadoc/index.html

*private method not shown on javadoc will placed here

```
312    private Button Task1PieButton;// for task 1
314    private Button Task1TableButton;// for task 1
316    private Button Task1Summarybutton;// for task 1
318    private Button Task1BarButton;// for task 1

320    // generate Summary
321    /**
322     * This function generate a bar chart showing the most n popular name in a new
323     * scene it will return alert if input is invalid
324     *
325     * @throws IOException
326     */
329    void Generate_BarChart() throws IOException {
450
451    /**
452     * This function generate a Pie chart showing the most n popular name in a new
453     * scene it will return alert if input is invalid
454     */
456    void Generate_PieChart() {
578
579
580    /**
581     * This function generate a Table showing the most n popular name in a new scene
582     * it will return alert if input is invalid
583     */
585    void Generate_Table() {
759
760    /**
761     * This function generate a summary showing the most n popular name on the
762     * console it will return alert if input is invalid
763     */
765    void Generate_Summary() {
839
841     * the inner class for table to use in task1
846    public static class Person {
912
```

Task1

Task2

```
935
936     /**
937      * This function is to safeguard the input for task3 all the button in task 3 is
938      * lock until the data is input fits the format there will be text showing on
939      * the console showing user what has gone wrong / (e.g. end-year is smaller than
940      * start-year)
941      */
943     void tsk3in() {
1034
1035    /**
1036     * This function will generate a bar chart showing the popularity of a name over
1037     * a period the result will be shown in a popup alert it will return alert if
1038     * input name is not found
1039     */
1041    void tsk3brcht() {// generate and popup barchart
1095
1096    /**
1097     * This function will generate a line chart showing the popularity of a name
1098     * over a period the result will be shown in a popup alert it will return alert
1099     * if input is invalid
1100     */
1102    void tsk3lncht() {
1156
1157    /**
1158     * This function will generate a summary showing the popularity of a name over a
1159     * period the result will be shown in a popup alert it will return alert if
1160     * input name is not found
1161     */
1163    void tsk3summary() {
1207
1209     * this is a inner class to store the info for table to use
1214    public static class tsk3entry {
1272
1273    /**
1274     * This function will generate a table showing the popularity of a name over a
1275     * period the result will be shown in a popup alert it will return alert if
1276     * input name is not found
1277     */
1280    void tsk3table() {
1347
```

Task3

```
1374
1375    private boolean Play = true;
1376
1377    /**
1378     * this function will generate the names for babies error alert will be raised
1379     * if the input is invalid
1380     *
1381     * if algorithm is T4X1 the name prediction will be shown on a information alarm
1382     *
1383     * if algorithm is T4X2 the name with the highest match rate will be shown on an
1384     * information alert an extra alert will popup showing the story behind with a
1385     * table and hyperlink and a webpage will be adhere to the story showing the
1386     * reference with a table / showing the rest of the prediction
1387     */
1389    void task_four_getresult() {..
1797
1798    /**
1799     *
1800     * This is the safeguard function for task 4 every action in the input for task4
1801     * will call this function the button to get result will be lock until the input
1802     * field is filled it will only check if the input has filled so even if the
1803     * data is invalid the button will unlock
1804     *
1805     * there is also a progress bar to indicate user the completeness the progress
1806     * status in text will also be shown on the console area allowing the user to
1807     * know what input is missing
1808     */
1810    void tsk4check() {
1888
```

Task4

```
1918
1919
1920    /**
1921     * This is the function used to generate names for compatible pairs Some input
1922     * checking shall be done here
1923     *
1924     */
1926    void task_five_getresult() {
1929
1930
1931    /**
1932     *
1933     * This is the safeguard function for task 5 every action in the input will call
1934     * this function
1935     */
1937    void tsk5check() {
1940    //
1941
```

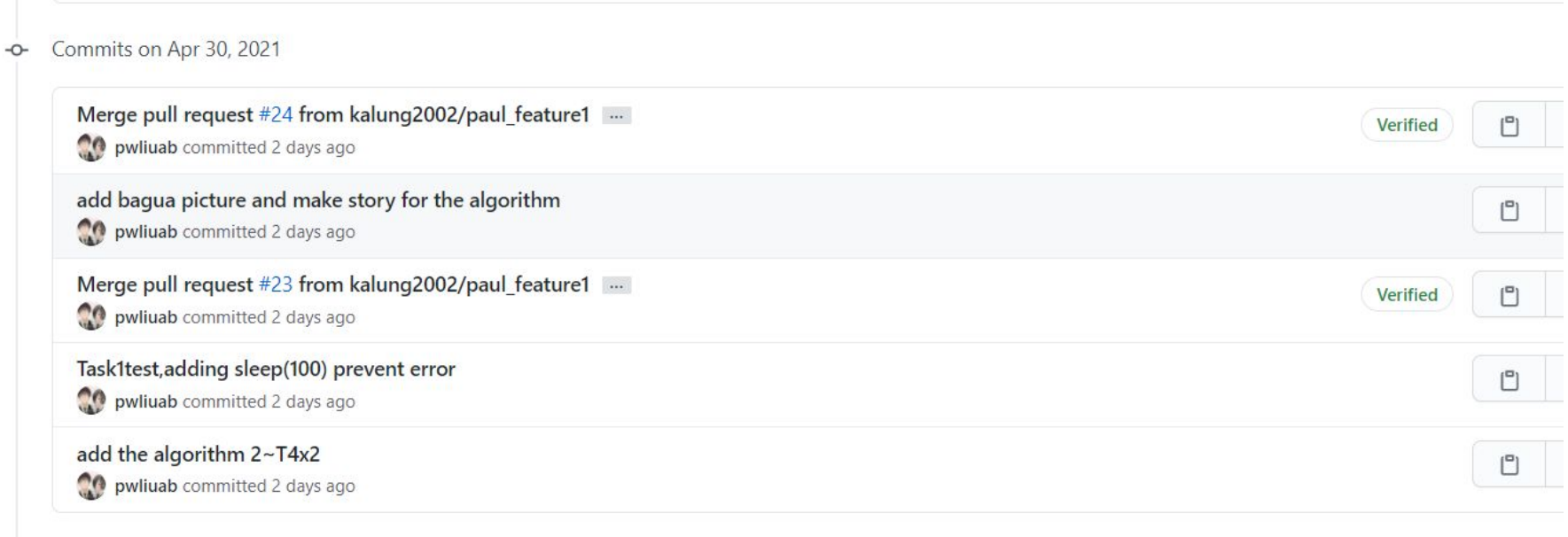
Task5

```
1987    private ToggleButton T6X1;
1988
1990    private ToggleButton T6X2;
1991
1992    /**
1993     * This function will calculate and show the score of capability of pairs it
1994     * will start off by doing a input validation and the function will return if
1995     * input is invalid and an alert will prompt the user the input has error
1996     *
1997     * If the data is valid, the score will be calculated and show on an
1998     * alert(type:information) If the algorithm is T6X2, the explanation will adhere
1999     * to the bottom to the alert
2000     *
2001     */
2003    void task_six_getresult() {
2127
2128    /**
2129     * This is the safeguard function for task 6 every action in the input for task6
2130     * will call this function the button to get result will be lock until the input
2131     * field is filled it will only check if the input has filled so even if the
2132     * data is invalid the button will unlock
2133     *
2134     * there is also a progress bar to indicate user the completeness the progress
2135     * status will also be shown on the console area
2136     */
2138    void tsk6check() {
2187
2188 }
```

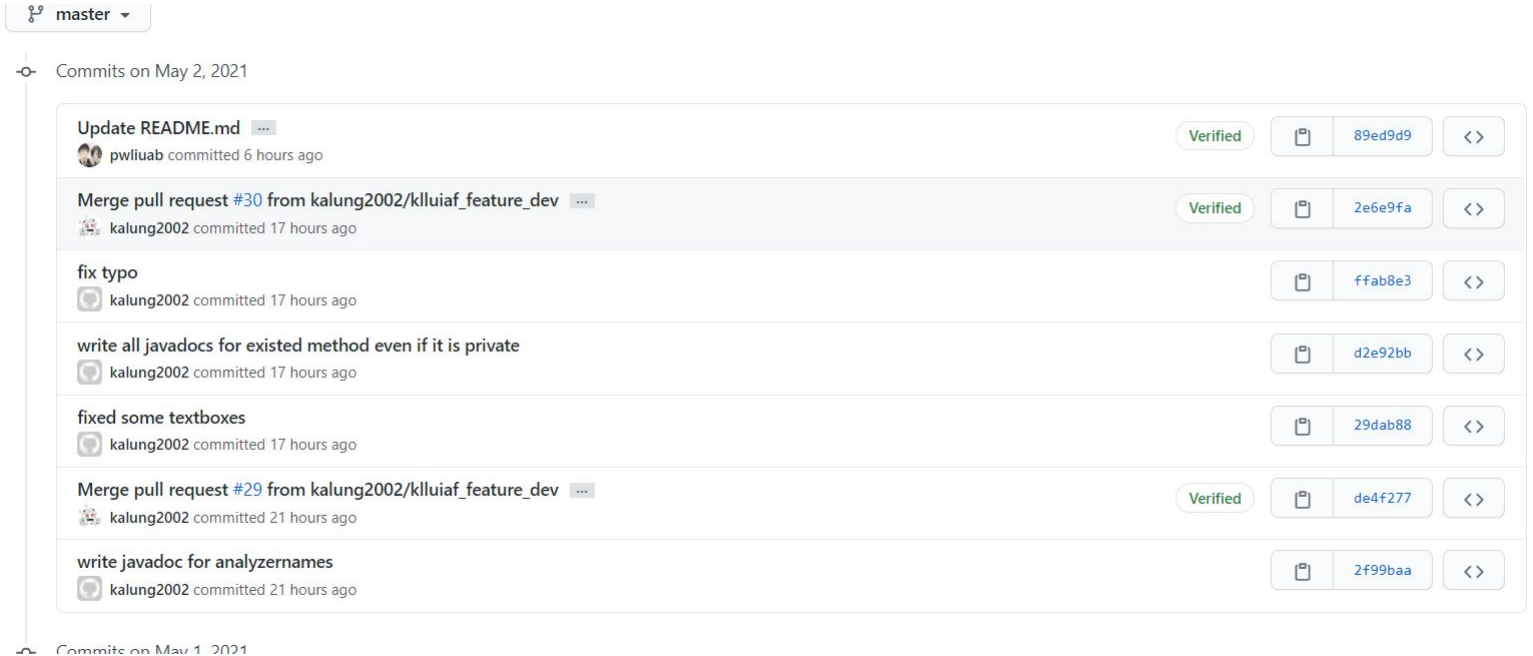
Task6

EXTRA:COMMIT LOG

Commit log


Commits on Apr 30, 2021
Merge pull request #24 from kalung2002/paul_feature1
pwliuab committed 2 days ago
Verified
add bagua picture and make story for the algorithm
pwliuab committed 2 days ago
Merge pull request #23 from kalung2002/paul_feature1
pwliuab committed 2 days ago
Verified
Task1test,adding sleep(100) prevent error
pwliuab committed 2 days ago
add the algorithm 2~T4x2
pwliuab committed 2 days ago

Commit Log


master
Commits on May 2, 2021
Update README.md
pwliuab committed 6 hours ago
Verified
89ed9d9
Merge pull request #30 from kalung2002/klluiaf_feature_dev
kalung2002 committed 17 hours ago
Verified
2e6e9fa
fix typo
kalung2002 committed 17 hours ago
ffab8e3
write all javadocs for existed method even if it is private
kalung2002 committed 17 hours ago
d2e92bb
fixed some textboxes
kalung2002 committed 17 hours ago
29dab88
Merge pull request #29 from kalung2002/klluiaf_feature_dev
kalung2002 committed 21 hours ago
Verified
de4f277
write javadoc for analyzernames
kalung2002 committed 21 hours ago
2f99baa
Commits on May 1, 2021

comp3111.popnames

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
Controller		92%		82%	76	261	131	1,275	2	39	0	1
MyApplication		0%		n/a	3	3	13	13	3	3	1	1
AnalyzeNames		98%		93%	8	85	6	218	0	18	0	1
Controller.Person		68%		n/a	3	7	6	14	3	7	0	1
Controller.tsk3entry		100%		n/a	0	5	0	10	0	5	0	1
Controller.task2_table_data		100%		n/a	0	5	0	10	0	5	0	1
Controller.new Comparator() {...}		100%		100%	0	4	0	6	0	2	0	1
Controller.new Comparator() {...}		100%		100%	0	4	0	6	0	2	0	1
Total	504 of 6,864	92%	84 of 580	85%	90	374	156	1,550	8	81	1	8