

# Test Assignment

The purpose of this assignment is to get the candidate to undertake a small project in the language of your choice that covers the basics of the following:-

1. Create a user interface where a person can enter data
2. Save the data that was entered into a database of your choice
3. Use the database to calculate/derive some values.

The application to be developed is one for collecting survey data about people's lifestyle preferences. We would like you to create a desktop app, web app or mobile app that can be placed in a public space where people can fill out a survey. It is hoped that many people would fill out the survey so that we can analyse the data collected to make sense of it. You are welcome to get in touch with us to seek clarification on these requirements.

## Duration

You will have 1 week to complete assignment from the date you receive it.

## Deliverables

Upon completion of the assignment, you will be expected to meet with us so that you can do the following:-

- Do a demo of the app on your PC
- Be able to explain the architecture and design decisions.
- All source code to be made available for discussion. You will be asked to explain parts of your code.
- Share the completed project with us at [internship@tshimologong.joburg](mailto:internship@tshimologong.joburg) through a git repository (such as GitHub, BitBucket, etc).

## Rules

1. You are required to undertake the work yourself.
2. You are permitted to use unlimited resources on the web.
3. As this application will never go into production, please disregard any concerns related to the POPI act or any other legislation regarding the protection of personal information.
4. You are welcome to get in touch with us to seek clarification on these requirements.
5. Please note that the screens shown in this document are only meant to convey the ideas (wireframes). The appearance of the screen will be determined by the environment in which you develop but you should be mindful of it being user-friendly.

## Specifications

The specifications for the application are now given.

## User Interface

For the user interface, there are 3 screens that need to be created.

### Screen 1

When the application starts up the user will be presented with a screen with the following two options.

**Fill out survey**

**View survey results**

Clicking on the first button will take the user to Screen 2. Clicking the second button will take the user to screen 3.

## Screen 2

Take our Survey

Personal Details:

Surname	<input type="text"/>
First Names	<input type="text"/>
Contact number	<input type="text"/>
Date	<input type="text"/>
Age	<input type="text"/>

What is your favourite food? (You can choose more than 1 answer)

- ☐ Pizza
- ☐ Pasta
- ☐ Pap and Wors
- ☐ Chicken stir fry
- ☐ Beef stir fry
- ☐ Other

On a scale of 1 to 5 indicate whether you strongly agree to strongly disagree

	Strongly Agree (1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
I like to eat out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to watch movies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to watch TV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to listen to the radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Submit**

The personal details are just text boxes. The question about favourite food uses checkboxes. This will allow the user to select more than one. The last question about the rating uses radio buttons and will permit the user to choose only one. The selected response is converted to a number from 1 to 5.

When the user clicks on submit, the data must be written to a database of your choice. After that, the user must be returned to the main menu (Screen 1 discussed above).

In this way, many surveys can be done by users.

### Screen 3

Create a screen to show the results of the survey.

Total number of surveys:	#surveys
Average age:	#average age
Oldest person who participated in survey	#max age
Youngest person who participated in survey	#min age
Percentage of people who like Pizza:	
Percentage of people who like Pasta:	
Percentage of people who like Pap and Wors:	
People like to eat out:	#average of rating
People like to watch movies:	#average of rating
People like to watch TV:	#average of rating
People like to listen to the radio:	#average of rating

OK

The expected calculations are as follows:-

- The *Total number of surveys* completed. This is just a count of the total number of rows in the database.
- Average age of the people that participated in the survey
- Oldest person that participated in the survey
- Youngest person that participated in the survey.
- *Percentage of people who like Pizza* is calculated by the number of people that like Pizza divided by the total number of surveys. Multiply by 100 to get the percentage. Present the result rounded off to 1 decimal place.
- *People like to eat out* is calculated by working out the average of the rating. Present the result rounded off to 1 decimal place.

When the user clicks on **OK** button the user must be returned to the main menu (Screen 1 discussed above).

### Optional

If you wish to challenge yourself you may explore the following options. These tasks should only be considered once all functionality above has been achieved.

- Validate the fields. Check that the user has not left any of the text fields empty before they submit.
- The user may NOT enter a value for *Age* that is less than 5 and should not be more than 120.
- Ensure that the user has actually selected a rating for each of the four rating questions. They cannot submit a survey without selecting a rating.
- Styling the screens so that it looks modern and user-friendly.
- Where the user is expected to enter the date, use a date picker.