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Benkei Sushi and Japanese Bill Calculator Writeup

Abstract:

The Benkei Sushi Order Calculator was designed specifically for a restaurant called Benkei Sushi and Japanese. The order calculator would take the inputs of the waiting staff or managerial staff, and then calculate the final bill including taxes and service fees. The order calculator will be an offline GUI program. This allows for quicker calculations with less margin of error compared to using a calculator by hand. This also allows for multiple devices to use the same program throughout the restaurant and have multiple workers using it to fill out order tickets quicker independently for each of their given sections of the restaurant. This would be set up by placing a few stations around the restaurant for the staff to go to and calculate bill and check totals and each station would correspond with a section of the restaurant that a member of the staff is designated to manage. These programs are mainly used to replace the calculators that have more room for input error from the employees. The client's goal in the future is to expand, but the only way to do that is to get a POS system, and trained staff members. This is a temporary solution for the client until they invest in a POS system before expanding and hiring new trained staff. Even though this is temporary, the owner of the restaurant may use it for a long time if the restaurant decides to not expand or grow.

Introduction:




Benkei Sushi was a restaurant that had employed me for a while and the system that the restaurant used was very outdated. So outdated that the most advanced equipment of technology that is used in daily operations of the restaurant is a four function calculator. The way of making the total check/bill was always tedious and had more room for error than using a software or POS system. The reason for this is that the the staff are not trained in how to use a POS system, so everything has been written by hand and the order totals have all been calculated using a four function calculator. With this new GUI program, the staff now have an easy software to use that only requires inputs of the number of each food or beverage item being ordered. Then with a click of the button, the total bill price will appear for the staff member to record onto the physical paper bill, so this is a calculator that has information of each food menu item and its costs to efficiently calculate the bill for the waiting staff.

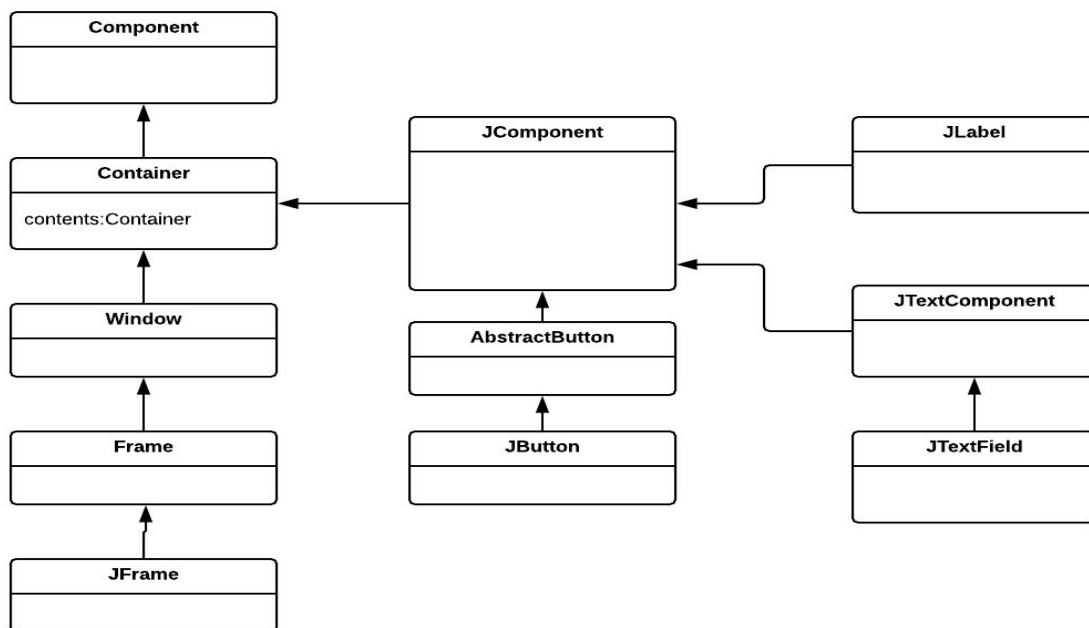
Requirements:

The main requirements for this program were to: make it easy enough for staff who are not trained in operating a POS system to use, to make it quick enough to be used regularly in a fast-paced restaurant environment, to calculate tax/service fees, to calculate subtotal, to calculate drinks total, and to calculate the total bill for an order. By separating two different programs for lunch and dinner, it allows for less confusion because the prices change when transitioning from lunch hours to dinner hours. GUI programming was implemented because it makes the program look more presentable and look less complex for the user. The client, also known as my boss, wanted something easy and clean. His calculations were messing up profit margins and other costs that needed to be calculated a bit more accurately. This is a temporary solution so that once more trained staff is hired, and with enough money saved up, the owner of

Benkei Sushi will buy a new POS system. This is needed if the owner of Benkei Sushi wants to expand in the near future. Hopefully with this, my boss is now able to have Benkei up and running much more efficiently and effectively for the time-being.

Detailed System Description (GUI Components Summary):

Big central relationship: JLabel and JTextComponent  JComponent  Container  Component.



Literature Survey:

Programming a whole Point of Sale (POS) system would have needed a lot more time, and the requirements from the restaurant owner did not include receipt making, recording or printing within the requirements. Therefore a whole POS system is not needed until the expansion of Benkei Sushi.

With more research done, one of the best POS systems seems to be the Toast Restaurant Point of Sales. The Toast POS system has everything necessary and more. The Toast POS system allows the use of computers and all mobile devices even for reading a card. The mobile phone, tablet and desktop that would be used with Toast POS appears as below:



https://pos.toasttab.com/?utm_expid=.uqevC6OSS7Cf6J33ushPTQ.0&utm_referrer=https%3A%2F%2Fwww.google.com%2F

As seen in the picture, the graphic user interface seems to be clean and not with a bunch of junk and unnecessary clutter. In relation to Toast POS, my calculator would not replace it, but would make the process quicker if the restaurant is packed with customers after expansion and all the POS systems are in use. This program can be a good way to start training staff members in general, especially when training is going to be needed when the POS system is installed.

User Manual:



Benkei Sushi Lunch Menu

Programmer: Eric Cho | CMPT 220 | Welcome To Benkei Sushi | Enter number of orders for each product; 0 if none

Tuna: \$3.00 Salmon: \$2.50 Yellowtail: \$3.50 California Rolls: \$6.50 Spicy Rolls: \$8.00

Sodas: \$2.50 Beers: \$3.00 Waters: \$2.00 Drinks: ? Subtotal: ? Service and Taxes(16%): ? Total Bill: ?

Calculate Bill

Input the number of orders in the corresponding boxes to the right of the label. For example if a customer order 2 pieces of sushi, the staff member should input “2” in the box to the right of the “Tuna: \$3.00” label. After plugging in all the number of orders, click on the “Calculate Bill” button to get the drinks total, the subtotal, the services/taxes and the total bill. The program can stay open the whole duration of a shift, and to reuse, simply just replace the numbers from the first order with numbers from the next order and click “Calculate Bill” again to get the totals.

Conclusion:

The programs are all used to easily calculate the total bills so that the waiting staff does not need to use a four function calculator to input many numbers that may get messed up in the process of input. More things needed to be added would include a dinner menu program that would be used during dinner hours, and more menu items need to be added to ensure the full menu is captured and displayed for the waiting staff. This will allow Benkei Sushi to steadily become more efficient and more technologically advanced. Less mistakes will occur as a result of implementing these GUI programs. The programs are meant to be used as a bill calculator and as a temporary solution before a POS system is installed along with expanding the restaurant.

References

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