

Assignment 9
GUI for Sockets
(2 weeks)

Implement a program to display the operation of a grocery shop

The story:

- A grocery sells loafs of bread that are supplied by bakers and are bought by customers and also (alas) eaten by rats.
- Bakeries deliver bread, the maximal number of unsold bread loafs is 100.
- If necessary the whole delivery is blocked.
- Customers buy up to 3 loafs if they could.
- If the required amount is not available then a customer is satisfied with what is in store.
- A rat eats bread at a constant speed of 1 loaf per 10 seconds.
- If there is no bread it sleeps, it does not eat and waits for a delivery.
- If it sleeps for two minutes or more it unfortunately dies of starvation.

Each customer, baker and a rat has to be implemented as a separate application. The application communicate with each other using the sockets.

The GUI requirements

- The current status of the grocery shop has to be displayed:
 - o the number of loafs of bread in the store
 - o the count of breads to deliver and the delivery status (in progress, delivered)
 - o the count of bread required with operation status (required, bought)
 - o the rat status (alive, dead, sleeping) and the number of loafs consumed.
- A user must have the possibility to specify the number of breads to deliver by a baker or buy by a customer.
- There must be a component, preferably a button, to initiate the delivery or purchase.
- Only the rats operate autonomously.
- The number of rats: 3
- The number of clients: 2
- the number of bakers: 1

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