
ITASDI PROJECT

Innovative Teaching Approaches in development of Software Designed Instrumentation and its application in real-time systems

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Course „Advanced LabVIEW Applications“

Laboratory no. 4 - Producer/Consumer User Event Design Pattern

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1 Warehouse

1.1 Goal

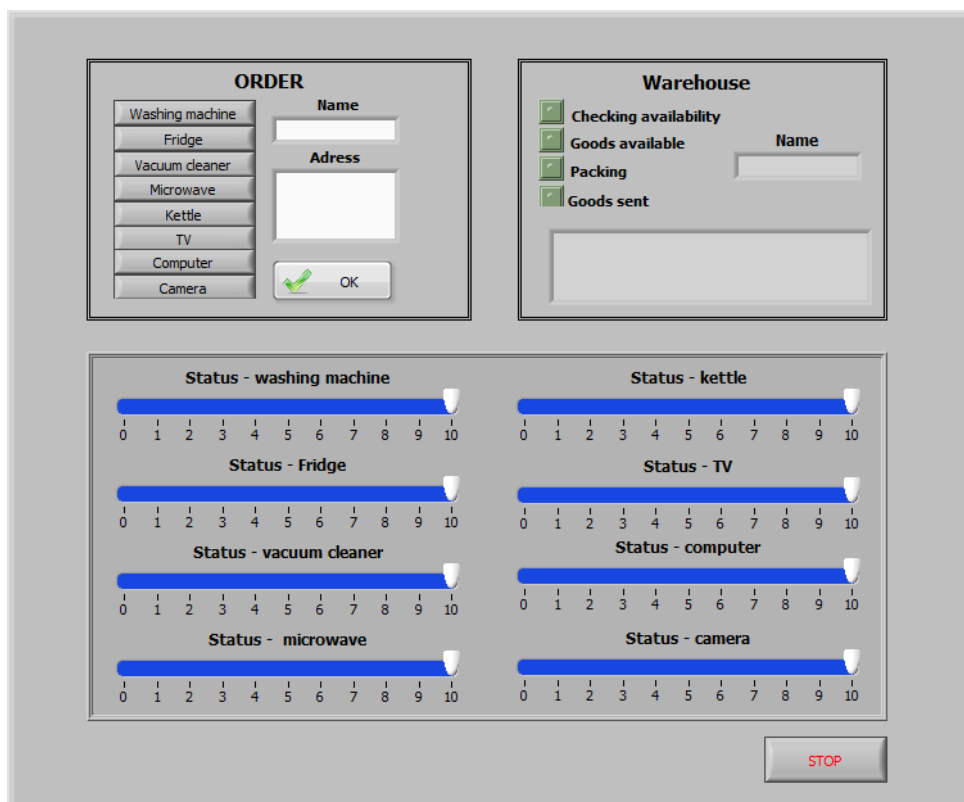
Create an application, which simulate the warehouse work for household goods shop.

1.2 General requirements

- The application should be hierarchical and scalable. Remember to use subVIs.
- Use the Producer/Consumer User Event Design Pattern.
- Avoid using the local, global or shared variables if it is possible.
- Close all opened references and handles.
- Application shouldn't crash. Inform the user about the errors using the error cluster or a dialog box.
- Remember to prepare well documented code. Especially remember about: labels on long wires, description showing in context help, tip strips of controls and labels of constant values.

1.3 Description

- The front panel contains three sections: order, warehouse progress and warehouse status.
- User may choose products from a list and specify the name and adress. When user clicks the *Ok* button, the chosen products, name and adress will be added to the queue.



Rysunek 1: The *front panel* of warehouse.



- The warehouse progress show, which stage is realized. Additionally, the *Name* indicator shows, whose order is processed. The *comments* indicator shows alerts like: *Lack of goods* or *No address*.
- The warehouse status panel shows how many goods are in stock.

1.4 Realization

- Use the Producer/Consumer User Event Design Pattern, in which producer loop will add the orders, name and address to the queue after clicking the *Ok* button. The warehouse progress and warehouse status will be realized in the consumer loop.
- Each stage of order realization should take 4000 ms of time.
- When the customer does not fill the address position, you should generate the error with code 5001 and generate the User Event. The appropriate comment should be added to the *comments* indicator inside the producer loop.
- When the customer orders the goods, which the amount in warehouse equals to 0, the error code number 5000 should be generated and appropriate comment should be displayed.
- **Additional functionality:** add third loop, which will save to file comments like:
Adam Nowak, availability checked
Adam Nowak, packed goods
Adam Nowak, goods sent
Realize it using another queue.

Please use the front panel from public folder.