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

The Advanced Applications of LabVIEW

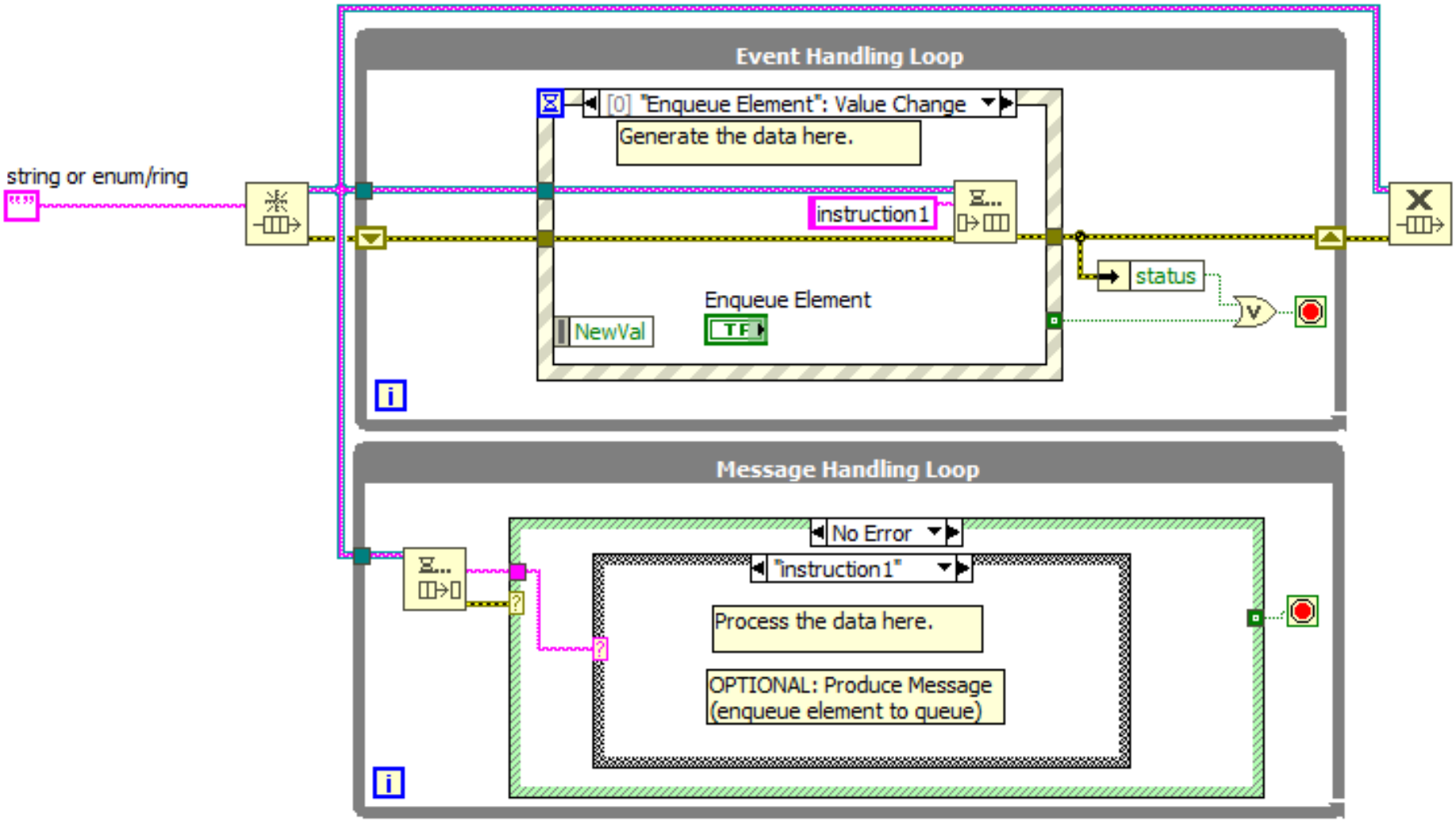
Lecture 5: Queued Message Handler

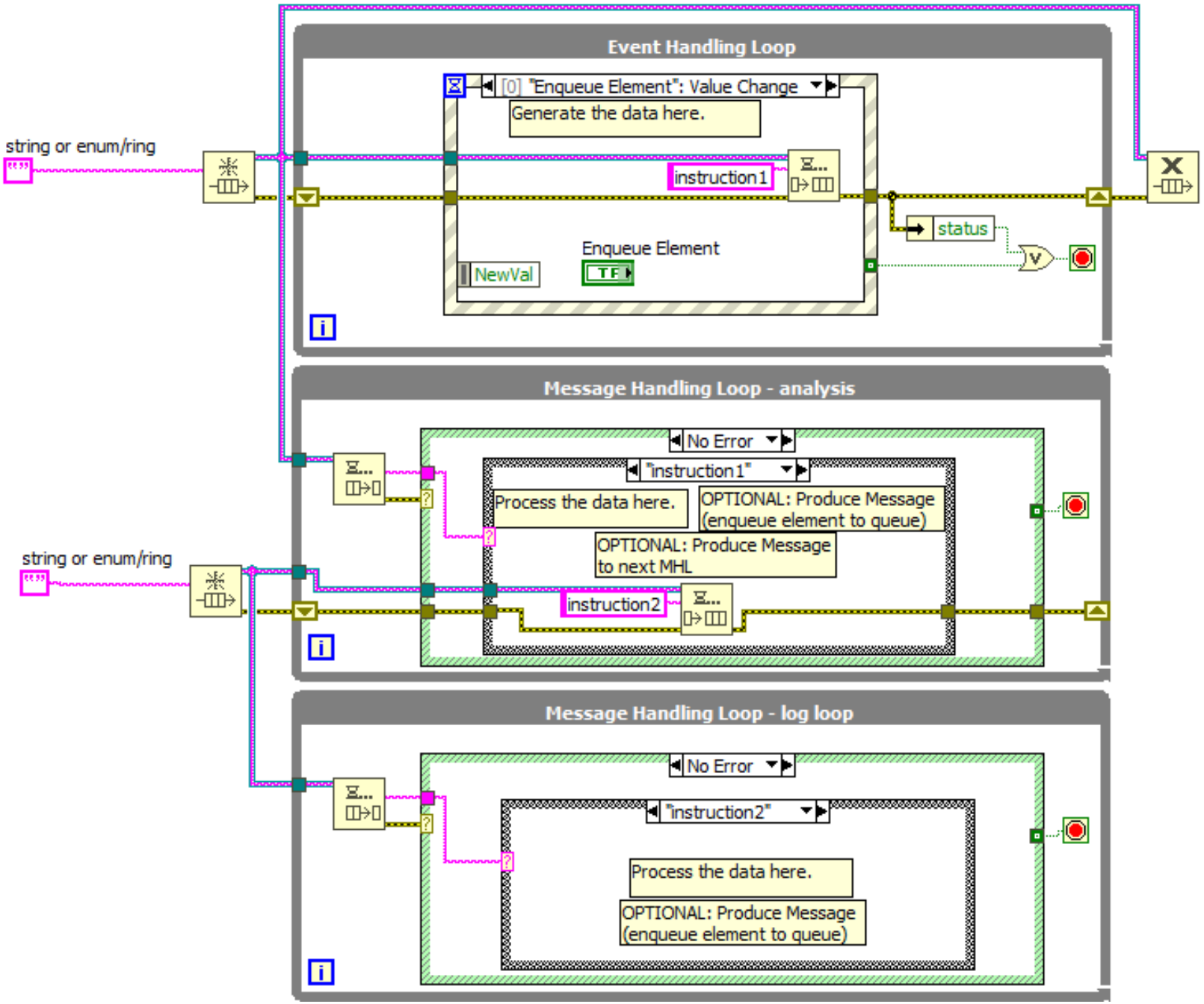
Co-funded by the
Erasmus+ Programme
of the European Union

Characteristic of QMH

- The Queued Message Handler (QMH) design pattern is a modification of producer/consumer desing pattern.
- In this case, the producer loop sends messages to the consumer loop. Consumer loop analyses messages and also can add new messages to the queue (sending to itself).
- In practice, it means that new elements are added to queue in producer and consumer loops.
- The type of element, which queue is processing is string or enum/ring.

- QMH consists of: one event handling loop (EHL) and at least one message handling loop (MHL).




Event Handling Loop
[0] "Enqueue Element": Value Change
Generate the data here.
string or enum/ring
instruction1
status
Enqueue Element
NewVal
TF
Message Handling Loop - analysis
No Error
"instruction1"
Process the data here.
OPTIONAL: Produce Message
(enqueue element to queue)
OPTIONAL: Produce Message
to next MHL
string or enum/ring
instruction2
Message Handling Loop - log loop
No Error
"instruction2"
Process the data here.
OPTIONAL: Produce Message
(enqueue element to queue)

Thank you for attention!

Lecture was prepared based on materials from: "LabVIEW Core 3 Course Manual".

This project has been funded with support from the European Commission. This communication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.