

LOG8430E - Revision - EDA

1. We are in a fast food restaurant. Clients place their order in the cashier. If the order cannot be served immediately, the clients step aside and wait. When the order is ready, they step back at the front of the line to receive their meal from the cashier. Which event-driven pattern would you use and why?

- ☐ Active Object, because we have an asynchronous process and multiple synchronous methods that can be executed in any order.
- ☐ Half-sync/half-async, because we want to decouple the synchronous and asynchronous processes.
- ☐ Monitor Object, because we have an object that accepts asynchronous requests for many synchronous processes.

2. Chrome uses plugins to allow the presentation of certain media types, like Flash. When a page that contains such media needs to be loaded the browser checks if the appropriate plugin is installed. If it is, the browser automatically invokes the plugin to handle the media. Which event-driven pattern would you use and why?

- ☐ Component configurator, because we have multiple components and we want to bind and unbind them dynamically to the system.

- ☐ Interceptor, because we want to be able to add components dynamically that we were not aware of their availability at design time.
- ☐ Extension interface, because we want our system to expose different interfaces based on the use case.

3. A FedEx Airbill contains a section labeled: 'Your Internal Billing Reference Information (Optional: First 24 characters will appear on invoice).' The sender of a package uses this field as a confirmation. This confirmation is returned by FedEx to the sender with the invoice that notifies the sender that the transaction has completed. FedEx deliberately defines this field very loosely: it is a maximum of 24 characters, which are otherwise 'untyped.' Therefore, senders can use the field in a variety of ways. For example, a sender can populate this field with the index of a record for an internal database or with a name of a file containing a 'to-do list' to be performed after the acknowledgment of the FedEx package delivery has been received. Which event-driven pattern would you use and why?

- ☐ Acceptor-Connector, because we need to decouple the reception of a request and the connection to a service from the processing of the request
- ☐ Reactor, because we receive synchronous requests that need to be redirected to a proper service.
- ☐ Asynchronous Completion Token, because the client needs to maintain a message as part of the response to a request.

4 You probably have a mobile phone associated with

... you probably have a mobile phone associated with a specific phone number. People can call that number and reach you. When somebody does, your phone rings and you may choose to respond and carry out the conversation with the person on the other side of the line. Which event-driven pattern would you choose and why?

- ☐ Reactor, because we receive synchronous requests that need to be redirected to the proper service
- ☐ Proactor, because we have asynchronous requests whose completion trigger synchronous operations
- ☐ Acceptor-Connector, because we want to decouple the reception of a request and the connection to a service from the processing of the request

5. Travelers arrive at an airport and some of them go to grab a taxi. The taxis are waiting in a line and so do the passengers, wait to be served one at a time. Normally, the first passenger will be served by the first taxi, but in certain cases a taxi driver may choose to serve a particular destination. Which event-driven architecture would you use and why?

- ☐ Half-sync/half-async, because we want to decouple the synchronous and the asynchronous requests
- ☐ Monitor object, because we have objects that accept asynchronous requests for many synchronous operations
- ☐ Leader/followers, because we have a thread pool that is ready to serve a set of synchronous requests.

Done

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