

Object Oriented Design 2024S

Stage 4 – News report

Introduction

Add news generation by news providers (TV, radio and newspapers) to the program about one of the following objects: an airport, a cargo plane and a passenger plane.

News providers

Add three new classes to the program: `Television`, `Radio`, `Newspaper`. Each type of news provider should have a property with its name.

Objects, about which reports can be made, should implement a new interface: `IReportable`. In the future it is more likely that new news providers will be added rather than new reportable objects. Add functions to the news provider classes which take the object they are reporting about and return a string describing this object.

The string returned by each pair depends on the types of the objects. It is given by the following table:

	Television	Radio	Newspaper
Airport	<An image of {Airport.Name} airport>	Reporting for {Radio.Name}, Ladies and Gentlemen, we are at the {Airport.Name} airport.	{Newspaper.Name} - A report from the {Airport.Name} airport, {Airport.Country}.
CargoPlane	<An image of {CargoPlane.Name} cargo plane>	Reporting for {Radio.Name}, Ladies and Gentlemen, we are seeing the {CargoPlane.Serial} aircraft fly above us.	{Newspaper.Name} - An interview with the crew of {CargoPlane.Serial}.
PassengerPlane	<An image of {PassengerPlane.Name} passenger plane>	Reporting for {Radio.Name}, Ladies and Gentlemen, we've just witnessed {PassengerPlane.Serial} take off.	{Newspaper.Name} - Breaking news! {Model} aircraft loses EASA fails certification after inspection of {PassengerPlane.Serial} }.

NewsGenerator class

In the program, each news piece should be generated by an object of a new class: `NewsGenerator`. Its constructor should take two arguments: a list of news providers and a list of objects implementing `IReportable`.

Text generation should be implemented in a method called `GenerateNextNews`, which selects the next pair belonging to the cartesian product of the lists given to the constructor and returns the corresponding news string or `null` if all pairs have been exhausted.

News report generation

Add a new command to the program: `report`.

`report` prints out a news overview generated using the data read from the FTR file. Upon executing `report` call a function creating the following objects with the following names:

- TV stations
 - o Abelian Television
 - o Channel TV-Tensor
- Radios
 - o Quantifier radio
 - o Shmem radio
- Newspapers
 - o Categories Journal
 - o Polytechnical Gazette

Using `NewsGenerator` generate all possible using the given news providers about all the objects implementing `IReportable` which have been loaded from the FTR file.

Deadline

2 weeks

All source files have to be uploaded to the repository by 10th April 2024 at 11:59 PM.

The project has to be presented to the teacher during the lab on the 11th of April 2024.