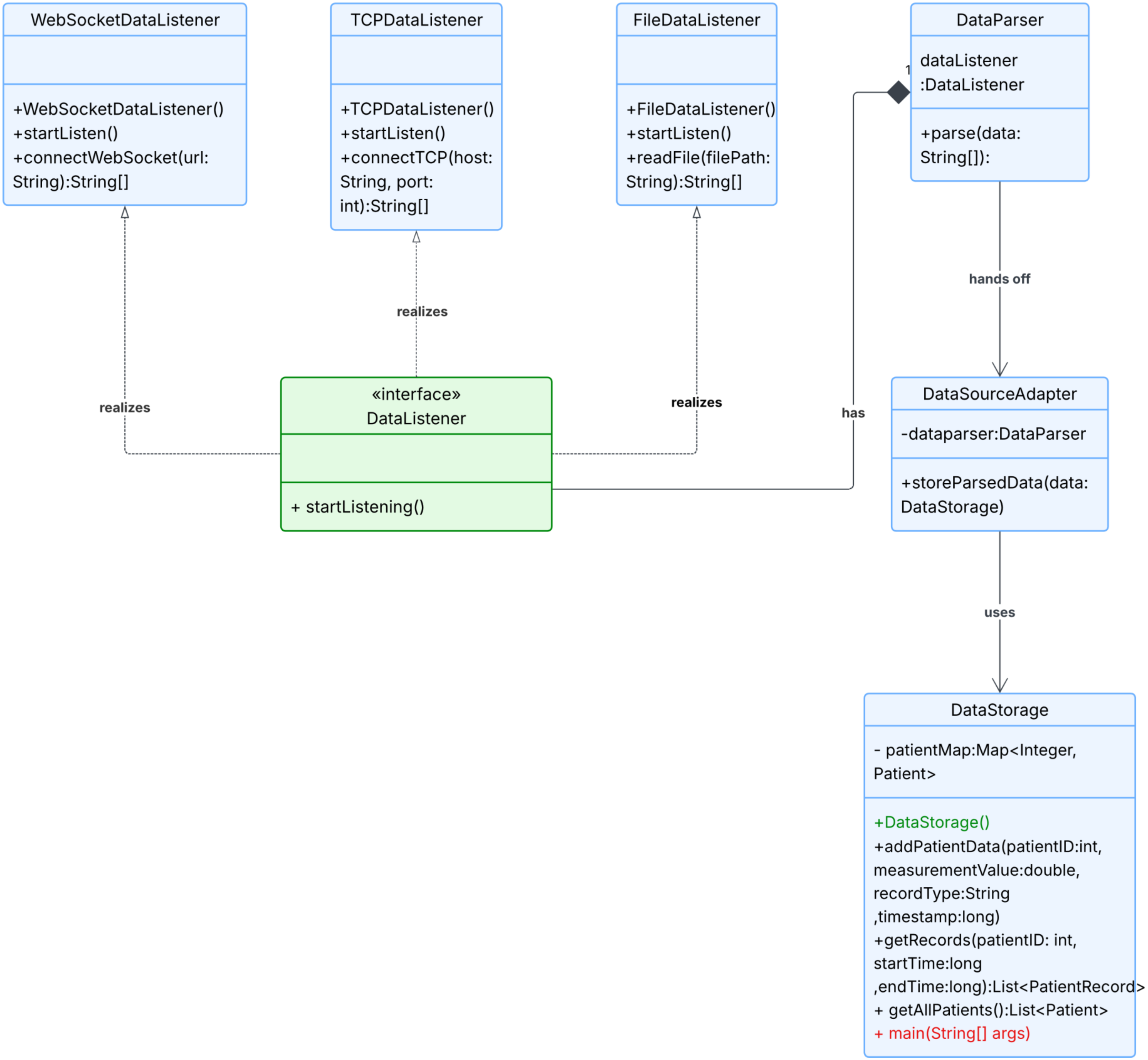
WebSocketDataListener
+WebSocketDataListener()
+startListen()
+connectWebSocket(url: String):String[]
TCPDataListener
+TCPDataListener()
+startListen()
+connectTCP(host: String, port: int):String[]
FileDataListener
+FileDataListener()
+startListen()
+readFile(filePath: String):String[]
DataParser
dataListener :DataListener
+parse(data: String[]):
1
realizes
realizes
realizes
has
hands off
«interface» DataListener
+ startListening()
DataSourceAdapter
-dataparser:DataParser
+storeParsedData(data: DataStorage)
uses
DataStorage
- patientMap:Map<Integer, Patient>
+DataStorage()
+addPatientData(patientID:int, measurementValue:double, recordType:String ,timestamp:long)
+getRecords(patientID: int, startTime:long ,endTime:long):List<PatientRecord>
+ getAllPatients():List<Patient>
+ main(String[] args)

4. Data access subsytem:

This UML diagram sets up a system that listens for data from different sources (ex: a file, a web socket, or a TCP connection)and then processes and stores that data in a structured way.

At the top, The three listener classes: TCPDataListener, WebSocketDataListener, and FileDataListener. Each one has a startListen() method (implemented by the interface) an a method specific to retrieve data. ConnectTCP() hooks into a TCP server, connectWebSocket()connect to a web socket, and readFile() pulls data from a file.

All these classes implement the DataListener interface, which just says that they need to have a startListening() function. It allows for a more flexible output in the DataParser class.

The DataParser in question has a DataListener that provides it with raw data (in this case string) and turn it into something the system can use more efficiently.

That processed data then gets handed off to the DataSourceAdapter, which stores it in the DataStorage class. DataStorage maps patient IDs to their records and lets you add new data . it also allows to retrieve data within a time range or grabbing all the patients.

This design can take incoming data from different formats, parse it, and save it in an organized way.