#### APIController

- +processSentimentRequest(xmlRequest)
- +getReportByDate(date)
- +getReportByDateRange(startDate, endDate)
- +resetDatabase()
- +testMessage(messageXML)

# SentimentAnalyzer

- -positiveWords: List
- -negativeWords: List
- +analyzeSentiment(text)
- +calculateSentimentPercentages()
- +getSentimentType()

#### XMLProcessor

- +parseInputXML(xmlString)
- +generateOutputXML()
- +parseMessage(messageXML)
- +validateXMLStructure()

# Database

- -companies: List
- -messages: List
- +saveMessage(message)
- +getStatistics()
- +clearData()
- +getReportData()

### Message

- -date: Date
- -location: String
- -user: String
- -socialNetwork: String
- -content: String
- +analyzeMessage()
- +getSentiment()
- +getCompaniesAndServices()

### Company

- -name: String
- -services: List
- -totalMessages: int
- -positiveMessages: int
- -negativeMessages: int
- -neutralMessages; int
- +addMessage(message)
- +updateStatistics()

# Service

- -name: String
- -aliases: List
- -totalMessages: int
- -positiveMessages: int
- -negativeMessages: int
- -neutralMessages: int
- +addMessage(message)
- +updateStatistics()