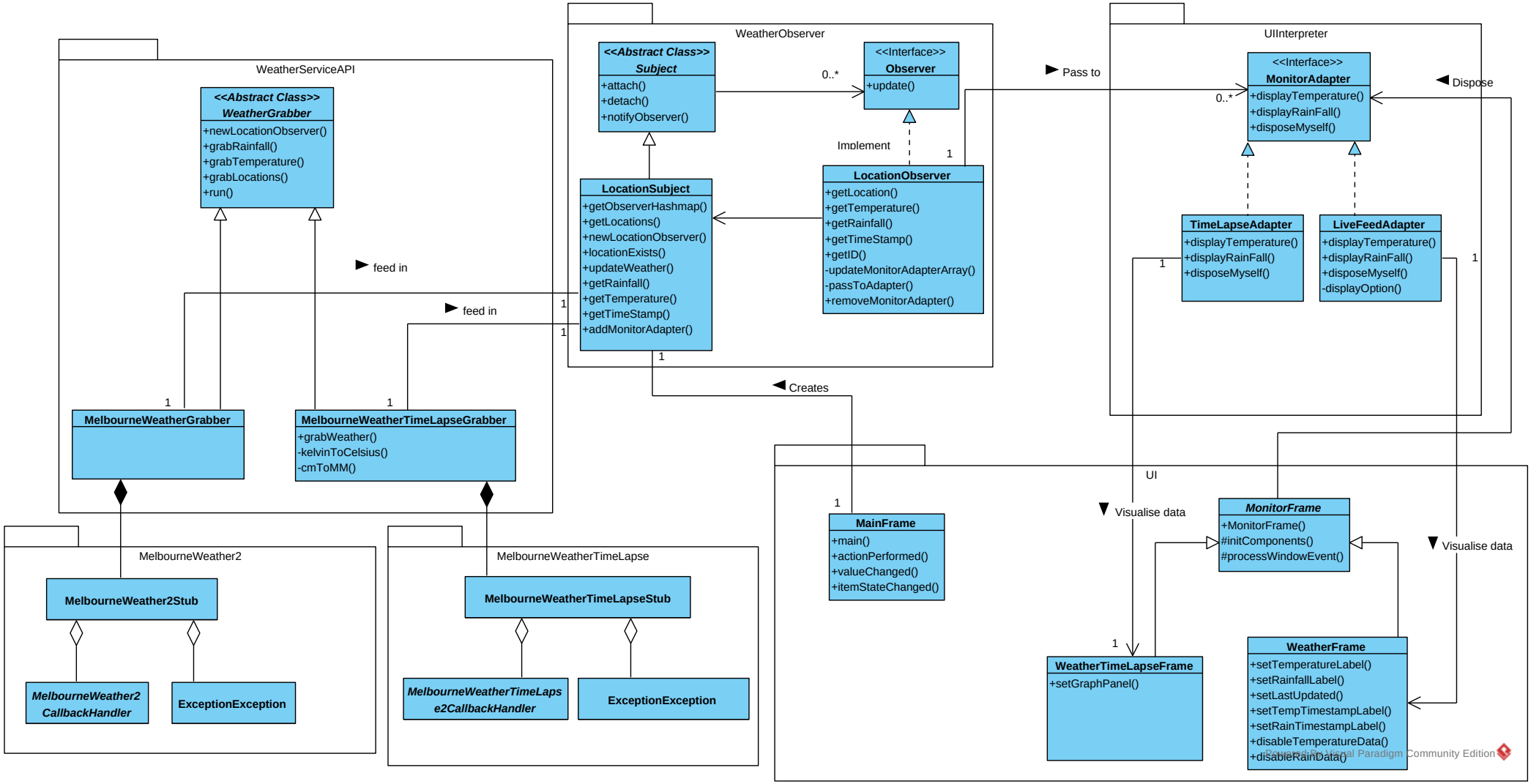
WeatherServiceAPI
<<Abstract Class>>
WeatherGrabber
+newLocationObserver()
+grabRainfall()
+grabTemperature()
+grabLocations()
+run()
feed in
feed in
1
1
1
1
MelbourneWeatherGrabber
MelbourneWeatherTimeLapseGrabber
+grabWeather()
-kelvinToCelsius()
-cmToMM()
WeatherObserver
<<Abstract Class>>
Subject
+attach()
+detach()
+notifyObserver()
0..*
<<Interface>>
Observer
+update()
Implement
1
LocationSubject
+getObserverHashmap()
+getLocations()
+newLocationObserver()
+locationExists()
+updateWeather()
+getRainfall()
+getTemperature()
+getTimeStamp()
+addMonitorAdapter()
LocationObserver
+getLocation()
+getTemperature()
+getRainfall()
+getTimeStamp()
+getID()
-updateMonitorAdapterArray()
-passToAdapter()
+removeMonitorAdapter()
1
Creates
Pass to
UIInterpreter
<<Interface>>
MonitorAdapter
+displayTemperature()
+displayRainFall()
+disposeMyself()
0..*
Dispose
TimeLapseAdapter
+displayTemperature()
+displayRainFall()
+disposeMyself()
LiveFeedAdapter
+displayTemperature()
+displayRainFall()
+disposeMyself()
-displayOption()
1
1
MelbourneWeather2
MelbourneWeather2Stub
MelbourneWeather2
CallbackHandler
ExceptionException
MelbourneWeatherTimeLapse
MelbourneWeatherTimeLapseStub
MelbourneWeatherTimeLaps
e2CallbackHandler
ExceptionException
UI
1
MainFrame
+main()
+actionPerformed()
+valueChanged()
+itemStateChanged()
Visualise data
MonitorFrame
+MonitorFrame()
#initComponents()
#processWindowEvent()
Visualise data
1
WeatherTimeLapseFrame
+setGraphPanel()
WeatherFrame
+setTemperatureLabel()
+setRainfallLabel()
+setLastUpdated()
+setTempTimestampLabel()
+setRainTimestampLabel()
+disableTemperatureData()
+disableRainData()
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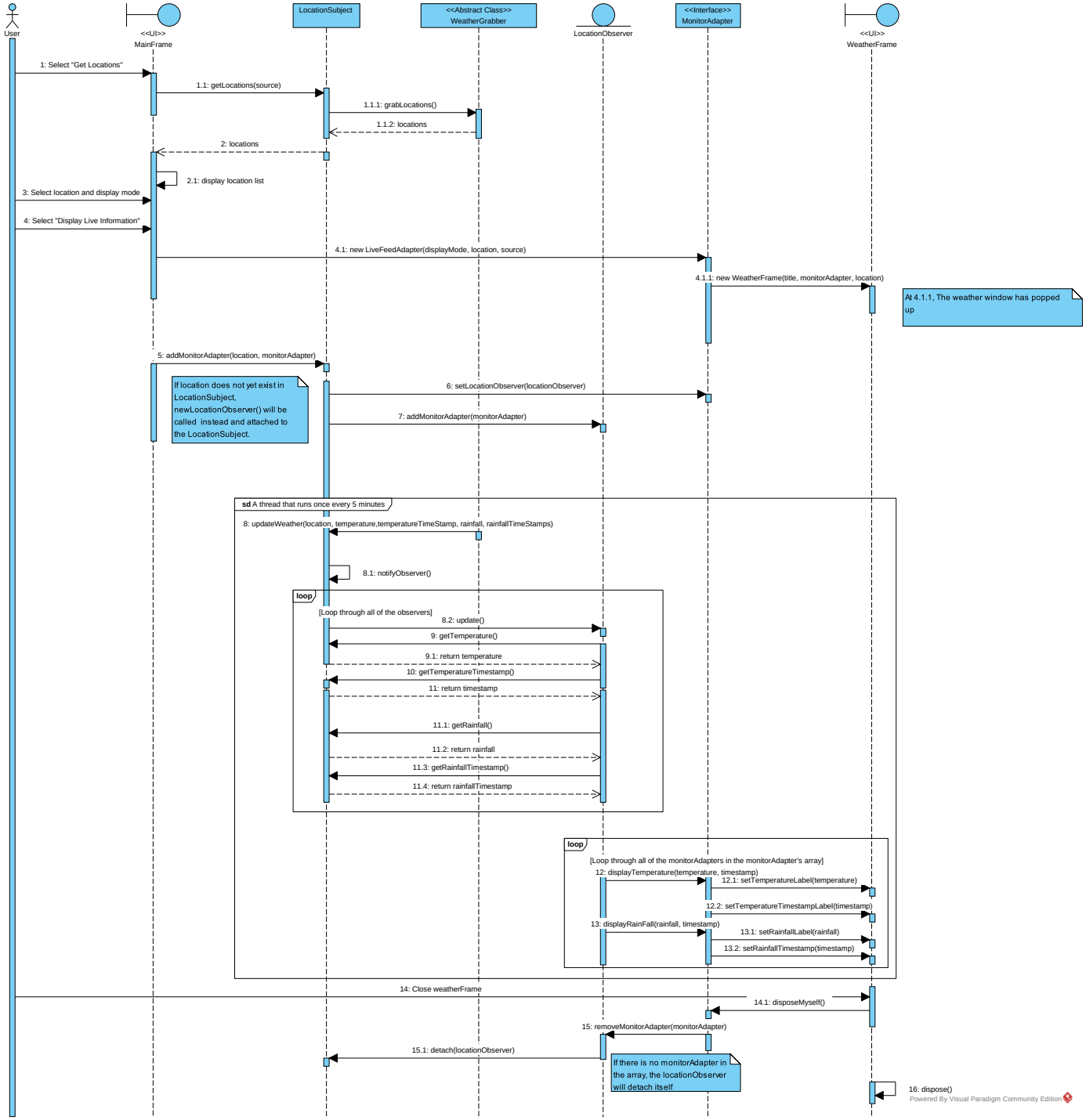
User
<<UI>>
MainFrame
LocationSubject
<<Abstract Class>>
WeatherGrabber
LocationObserver
<<Interface>>
MonitorAdapter
<<UI>>
WeatherFrame
1: Select "Get Locations"
1.1: getLocations(source)
1.1.1: grabLocations()
1.1.2: locations
2: locations
2.1: display location list
3: Select location and display mode
4: Select "Display Live Information"
4.1: new LiveFeedAdapter(displayMode, location, source)
4.1.1: new WeatherFrame(title, monitorAdapter, location)
At 4.1.1, The weather window has popped up
5: addMonitorAdapter(location, monitorAdapter)
If location does not yet exist in LocationSubject, newLocationObserver() will be called instead and attached to the LocationSubject.
6: setLocationObserver(locationObserver)
7: addMonitorAdapter(monitorAdapter)
sd A thread that runs once every 5 minutes
8: updateWeather(location, temperature,temperatureTimeStamp, rainfall, rainfallTimeStamps)
8.1: notifyObserver()
loop
[Loop through all of the observers]
8.2: update()
9: getTemperature()
9.1: return temperature
10: getTemperatureTimestamp()
11: return timestamp
11.1: getRainfall()
11.2: return rainfall
11.3: getRainfallTimestamp()
11.4: return rainfallTimestamp
loop
[Loop through all of the monitorAdapters in the monitorAdapter's array]
12: displayTemperature(temperature, timestamp)
12.1: setTemperatureLabel(temperature)
12.2: setTemperatureTimestampLabel(timestamp)
13: displayRainFall(rainfall, timestamp)
13.1: setRainfallLabel(rainfall)
13.2: setRainfallTimestamp(timestamp)
14: Close weatherFrame
14.1: disposeMyself()
15: removeMonitorAdapter(monitorAdapter)
15.1: detach(locationObserver)
If there is no monitorAdapter in the array, the locationObserver will detach itself
16: dispose()
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