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# Interaction Testing Framework

**dkfz.**

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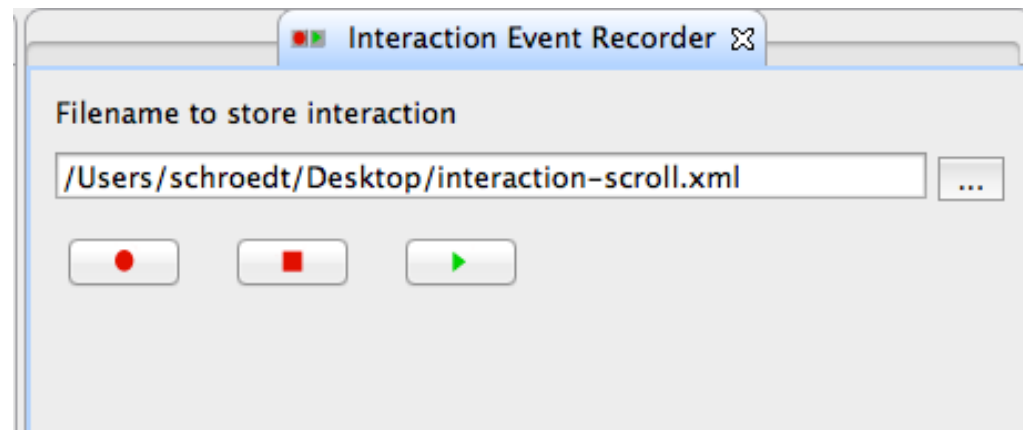
50 Years – Research for  
A Life Without Cancer

# Interaction Testing Framework

- Components
- Workflow
- Example

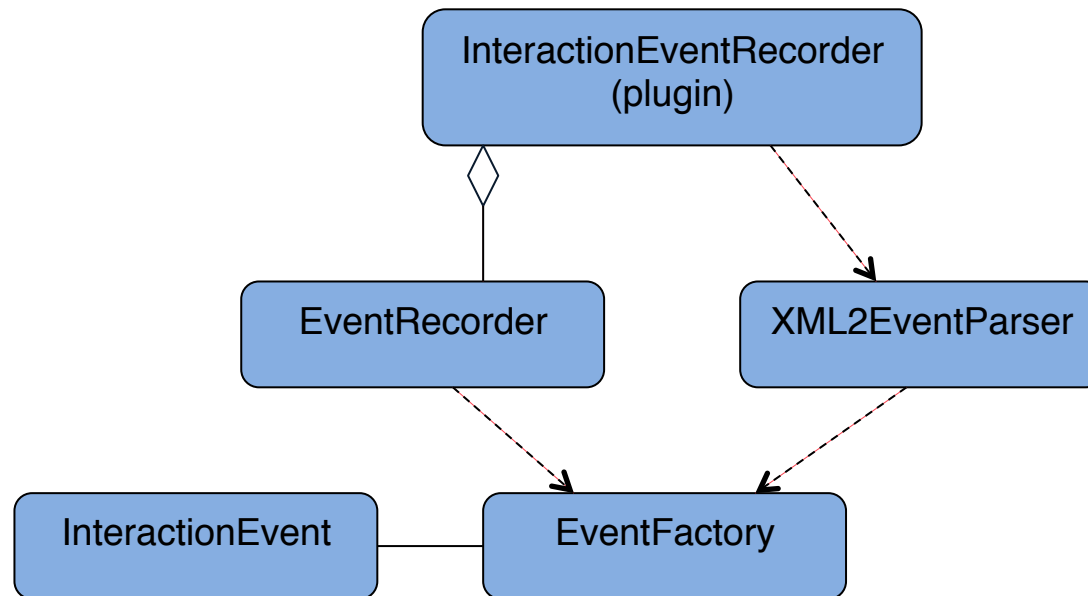
# Components

- Plugin – Interaction Event Recorder

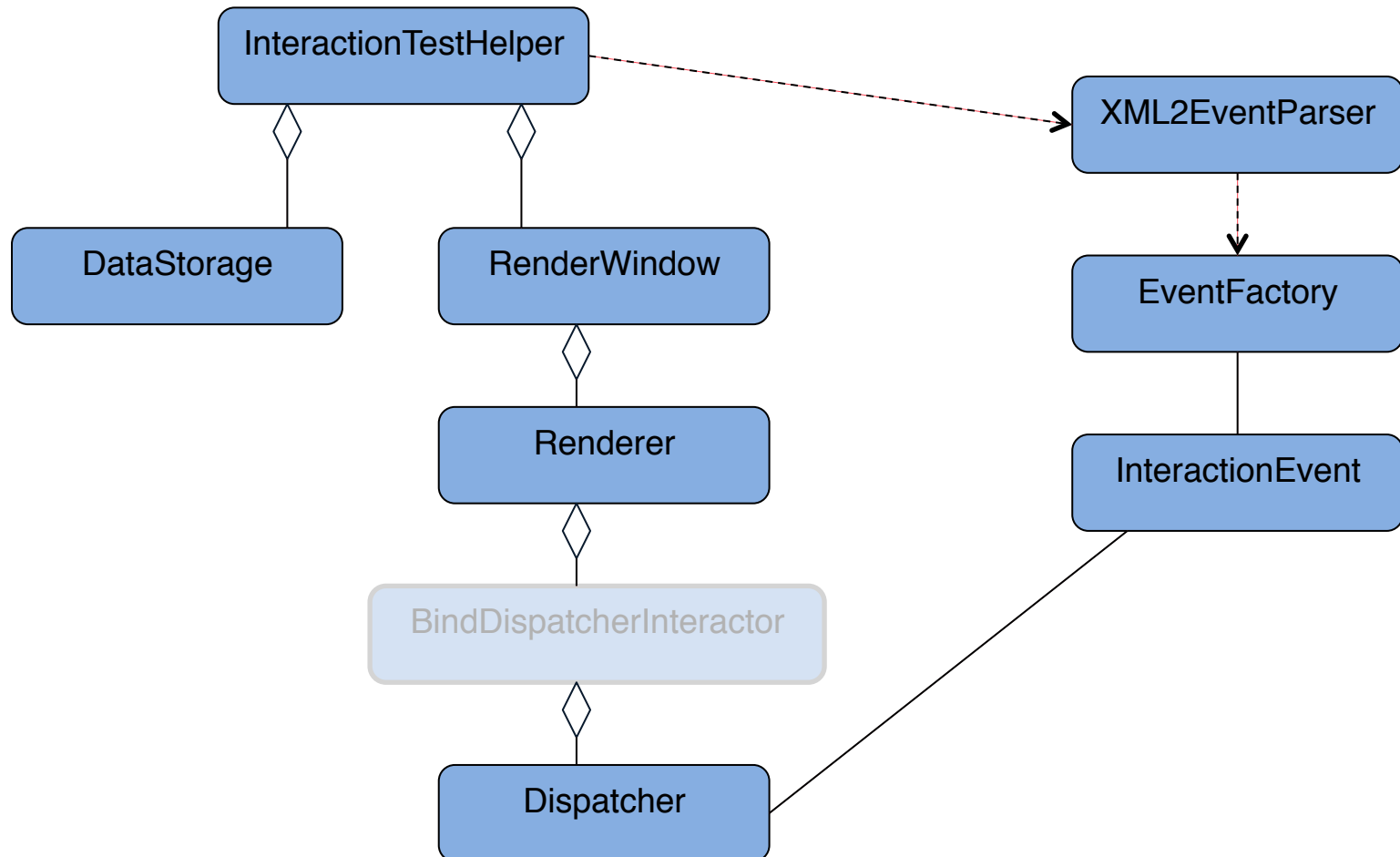


- Test helper class
  - Create Dispatcher
  - Load interaction xml
  - Playback events

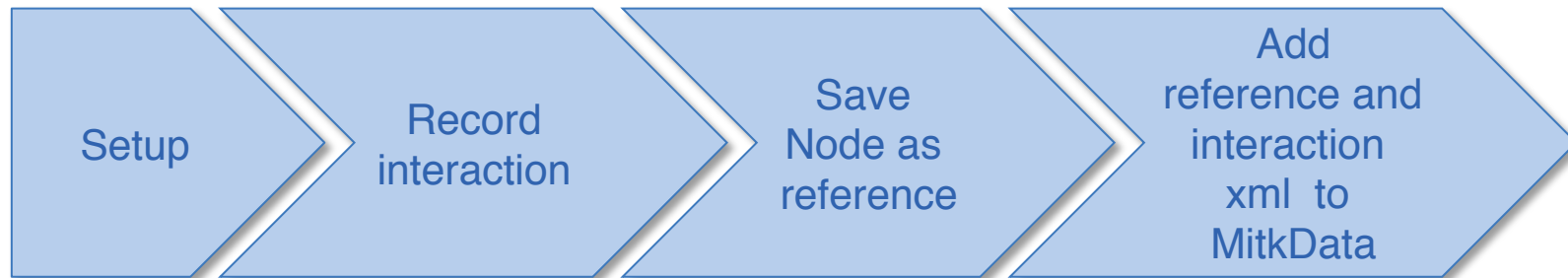
# Components - Interaction Event Recorder



## Components - Test helper class



# Workflow



- PointSetDataInteractorTest

```
void setUp()
{
    //Create DataNode as a container for our PointSet to be tested
    m_TestPointSetNode = mitk::DataNode::New();

    // Create PointSetData Interactor
    m_DataInteractor= mitk::PointSetDataInteractor::New();

    // Load the according state machine for regular point set interaction
    m_DataInteractor->LoadStateMachine("PointSet.xml");

    // Set the configuration file that defines the triggers for the transitions
    m_DataInteractor->SetEventConfig("PointSetConfig.xml");

    // set the DataNode (which already is added to the DataStorage)
    m_DataInteractor->SetDataNode(m_TestPointSetNode);

    //Create new PointSet which will receive the interaction input
    m_TestPointSet = mitk::PointSet::New();
    m_TestPointSetNode->SetData(testPointSet);
}
```

- PointSetDataInteractorTest

```
void AddPointInteraction()
{
    //Path to the reference PointSet
    std::string referencePointSetPath = GetTestDataFilePath("foo");

    //Path to the interaction xml file
    std::string interactionXmlPath = GetTestDataFilePath("bar");

    //Create test helper to initialize all necessary objects for interaction
    mitk::InteractionTestHelper interactionTestHelper(interactionXmlPath);

    //Add our test node to the DataStorage of our test helper
    interactionTestHelper->AddNodeToStorage(m_TestPointSetNode);

    //Start Interaction
    interactionTestHelper.PlaybackInteraction();

    //Load the reference PointSet
    mitk::PointSet::Pointer referencePointSet = mitk::IOUtil::LoadPointSet(referencePointSetPath);

    //Compare reference with the result of the interaction
    MITK_ASSERT_EQUAL(m_TestPointSet.GetPointer(), referencePointSet.GetPointer(), "Usefull message");
}
```



## Example

- PointSetDataInteractorTest

```
void tearDown()  
{  
    //destroy all objects  
    m_TestPointSetNode = NULL;  
    m_TestPointSet = NULL;  
    m_DataInteractor = NULL;  
}
```

# Important

```
#since mitkInteractionTestHelper is currently creating a vtkRenderWindow
if(MITK_ENABLE_RENDERING_TESTING)
set(MODULE_TESTS
    ${MODULE_TESTS}
    mitkPointSetDataInteractorTest.cpp
)
endif()
```

A photograph of the German Cancer Research Center (DKFZ) building, a modern multi-story structure with a glass facade and balconies. The building is surrounded by a paved courtyard with benches, small trees, and a fountain. The sky is blue with some clouds.

Thank you for  
your attention!

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