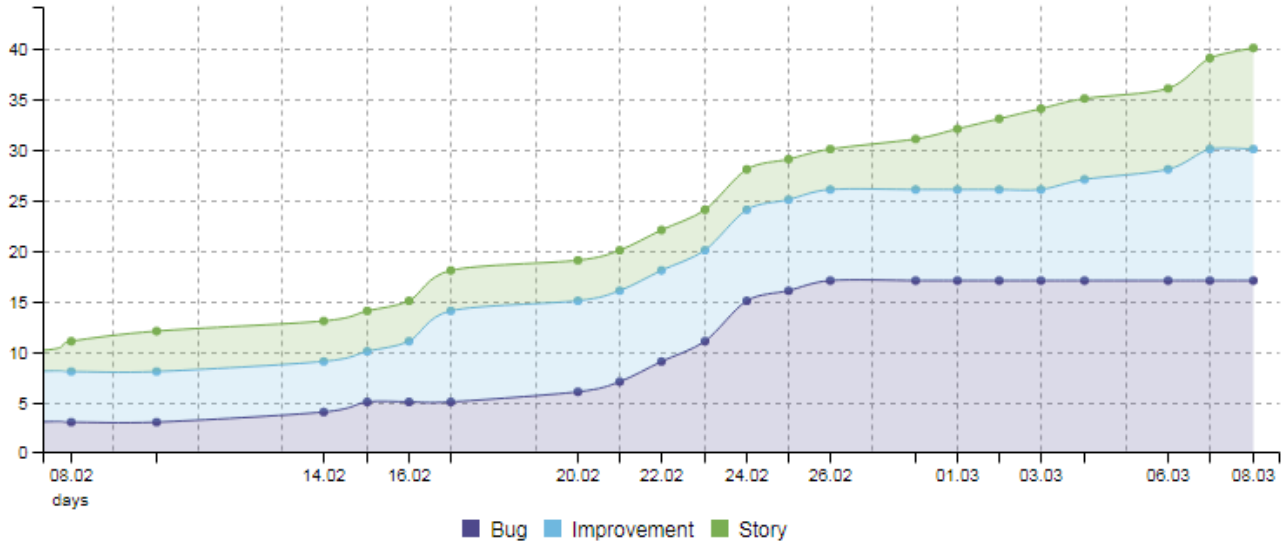
Time frame chart

The time frame chart is a highly configurable issue chart, which shows the number of issues over time, grouped by a specific date field on the X-axis, and by a chosen field on the Y-axis.

Chart preview



Parameters

Parameter		Type	Default value
in UI	in Code		
JQL	`JQL`	JQL Autocomplete	
Date Field	`DateFieldParam`	Date Field Picker (single field)	Date of creation
Time Period	`TimePeriod`	Time Period Picker	Month
From	`From`	Interval Picker	-1m (relative time, it goes 1 month into the past from today)
To	`To`	Interval Picker	+1m (same as above, but 1 month into the future, if data exists)
Group By	`GroupBy`	Group By Picker	Issue Type
Chart Type	`ChartType`	Chart Type Picker	Bar
Value Picker	`ValuePicker`	Value Field Picker	IssueCount
Options • Accumulate Groups • Accumulate Values • Zoom	`AccumulateGroups`	Boolean	True
	`AccumulateValues`	Boolean	False
	`EnableZoomParam`	Boolean	False

Layout Script

```
function formatQuarter(d)
{
    if (d instanceof Date)
    {
        var q = d.getMonth();
        q = parseInt(q / 3) + 1;
        return 'Q' + q;
    }
    return '';
}

function formatHalfyear(d)
{
    if (d instanceof Date)
    {
        var q = d.getMonth();
        q = parseInt(q / 6) + 1;
        return 'H' + q;
    }
    return '';
}

c3.generate({
    onrendered: updateFrameHeight,
    data: chartData,
    grid: {
        y: {
            show: true
        },
        x: {
            show: true
        }
    },
    axis: {
        x: {
            type: 'timeseries',
            label: {
                text: chartData.custom.xLabel,
                position: 'outer-left'
            },
            tick: {
                format: eval(chartData.custom.xTickFormat),
                culling: {
                    max: 25
                },
                fit: true,
                multiline: false
            }
        }
    }
})
```

Data Script

```
import java.lang.reflect.Field;

import java.math.BigDecimal;
import java.util.Date;

import org.apache.lucene.document.Document;

import com.atlassian.jira.component.ComponentAccessor;
import com.atlassian.jira.issue.DocumentIssueImpl;
```

```
import com.atlassian.jira.issue.Issue;
import com.atlassian.jira.issue.IssueFieldConstants;
import com.atlassian.jira.issue.fields.CustomField;
import com.atlassian.jira.issue.fields.FieldManager;
import com.atlassian.jira.jql.builder.JqlClauseBuilder;
import com.atlassian.jira.jql.builder.JqlQueryBuilder;
import com.atlassian.jira.jql.parser.JqlQueryParser;
import com.atlassian.query.Query;
import com.atlassian.query.operator.Operator;

import com.decadis.jira.xchart.api.ChartParam;
import com.decadis.jira.xchart.api.model.Period;
import com.decadis.jira.xchart.api.util.DateUtils;

def fieldManager = ComponentAccessor.getFieldManager();
def i18n = ComponentAccessor.getJiraAuthenticationContext().getI18nHelper();

//helper method to create the JQL Query
def createQuery(String jql, com.atlassian.jira.issue.fields.Field field, boolean isCustomField, Period
period)
{
    JqlQueryParser jqlQueryParser = ComponentAccessor.getComponent(JqlQueryParser.class);
    Query query = null;
    try {
      JqlClauseBuilder jqlClauseBuilder = JqlQueryBuilder.newClauseBuilder(jqlQueryParser.parseQuery(jql));

      Date start = chartBuilder.getDateFromParam(From);
      Date end = chartBuilder.getDateFromParam(To);

      String searchKey = field.getId();
      if ( isCustomField ) {
        searchKey = "cf[" + ((CustomField) field).getIdAsLong() + "]";
      }

      jqlClauseBuilder.defaultAnd();
      if ( start != null ) {
        jqlClauseBuilder.addDateCondition(searchKey, Operator.GREATER_THAN_EQUALS, start);
      }

      if ( end != null ) {
        jqlClauseBuilder.addDateCondition(searchKey, Operator.LESS_THAN, end);
      }

      query = jqlClauseBuilder.buildQuery();
    } catch (Exception e) {
      throw new IllegalArgumentException("Bad JQL: " + jql);
    }
    return query;
}

//here starts the main method
String dateField = DateFieldParam;
if ( dateField.isEmpty() )
{
  dateField = IssueFieldConstants.CREATED;
}

com.atlassian.jira.issue.fields.Field dateFieldObject = fieldManager.getField(dateField);
boolean isCustomField = fieldManager.isCustomField(dateFieldObject);

Period selectedPeriod = Period.fromString(TimePeriod);

Query query = createQuery(JQL, dateFieldObject, isCustomField, selectedPeriod);
def countGroup = chartBuilder.newDataCollector();
def valueExtractor = chartBuilder.getValueExtractor(ValuePicker);

if ( valueExtractor == null )
{
    throw new IllegalArgumentException("Valuepicker for " + ValuePicker + " is not supported.");
}
```

```
def groupValueExtractor = chartBuilder.getGrouper(GroupBy);
Field documentField;
try
{
  documentField = DocumentIssueImpl.class.getDeclaredField("document");
  documentField.setAccessible(true);

  for ( Issue issue : chartBuilder.getFilterUtils().performSearch(query, user) )
  {
    Document document = (Document) documentField.get(issue);
    String[] groups = groupValueExtractor.getGroups((Document) documentField.get(issue));

    for ( String group : groups )
    {
      Date dateFromField = new Date();
      if ( isCustomField ) {
        dateFromField = (Date) issue.getCustomFieldValue((CustomField) dateFieldObject);
      }
      else
      {
        switch ( dateFieldObject.getId() ) {
          case IssueFieldConstants.CREATED:
            dateFromField = issue.getCreated();
            break;
          case IssueFieldConstants.UPDATED:
            dateFromField = issue.getUpdated();
            break;
          case IssueFieldConstants.RESOLUTION_DATE:
            dateFromField = issue.getResolutionDate();
            break;
          case IssueFieldConstants.DUE_DATE:
            dateFromField = issue.getDueDate();
            break;
          default:
            dateFromField = new Date();
          break;
        }
      }
      countGroup.addValue(valueExtractor.get(issue, document), group, dateUtils.getPeriodGroup
(dateFromField, selectedPeriod));
    }
  }
} catch (Exception e) {
  System.out.println("Could not extract groups" + e);
}

if ( AccumulateValues )
{
    countGroup.accumulateGroups();
}
else
{
    countGroup.fillMissingValues();
}

def chartData = chartBuilder.newChartData(i18n.getText("common.concepts.issues"));

for ( String grpKey : countGroup.keySet() )
{
  chartData.addGroupName(grpKey, groupValueExtractor.getResolvedValue(grpKey, null));
}

chartData.setxFormat(DateUtils.SimpleDateFormatD3);
chartData.setPeriod(selectedPeriod);
chartData.setType(ChartType);
chartData.addCustomData("enableZoom", EnableZoomParam);

chartBuilder.getChartUtil().transformResult(countGroup, chartData, AccumulateGroups);
return chartData;
```

If you still have questions, feel free to refer to our support team.