TriUlti

iFlowEdit

Weekly Report #1

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Ext-JS

Ext-JS is basically a JavaScript library. It is used to create web application consist of the base technologies such as Ajax, DHTML and DOM scripting; in addition to support of RESTFUL services and MVC-like organizations. Where Restful is architecture for distributed hypermedia and its services used to make some jobs and get information for given dataset in that hypermedia for example; in world wide web; and MVC stands for Model–view–controller architecture for software. Ext-JS has so user/coder-friendly GUI controls for rapid developing and easy-to-use progress.

Ext-JS provides major built-in elements such as grid control, tree control tab panels, toolbars, and desktop application-style menus. There is virtual desktop workspace called *Kohive* made by using Ext-JS which very satisfies people used it by graphics and easy-to-use features. In addition there is a website called *showmetheparts.com* said "After reviewing the design, functionality, direction, documentation, and supporting user community of various JavaScript frameworks, we chose Ext JS." about Ext-JS.

We plan this technology for creating side panels, property windows and other window-like features. Whole canvas which actions are made in is also inside of a panel of an Ext-JS also.
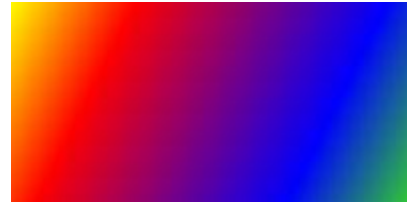
XAML

XAML stands for Extensible Application Markup Language which is declarative XML-based language. XAML forms a user interface markup language to define UI elements, data binding, eventing, and other features. We will get interaction with WF.Net while the project; whose workflows are also defined in XAML. Via XAML we can separate the UI definition from the run-time logic by using code-behind files, joined to the markup through partial class definitions.

Here is an example of XAML code snippet and how it's seen:

```xml
<!-- This rectangle is painted with a diagonal linear gradient. -->
<Rectangle Width="200" Height="100">
  <Rectangle.Fill>
    <LinearGradientBrush StartPoint="0,0" EndPoint="1,1">
      <GradientStop Color="Yellow" Offset="0.0" />
      <GradientStop Color="Red" Offset="0.25" />
      <GradientStop Color="Blue" Offset="0.75" />
      <GradientStop Color="LimeGreen" Offset="1.0" />
    </LinearGradientBrush>
  </Rectangle.Fill>
</Rectangle>
```


In the project, XAML is used to store the diagrams and sync users diagram with WF.Net technology.

KARAOĞUZ, Mehmet Ozan

HTML5

HTML5 is a brand new technology designed for web. It is said to be the new standard for HTML, XHTML, and the HTML DOM. One of the good things about HTML5 is that it does not need costly plug-ins such as Flash. This makes is light-weight. The other good thing is that it provides offline application caching which means that you can refresh the pages and see them correctly even if you are offline. It has a lot of advantages that are not mentioned here because of purity concerns. However, HTML5 has some disadvantages too. For example, it does not supported fully by any browser, although the major browsers (e.g. Google Chrome, Firefox, Opera) continue to adding more features of it. Moreover, it does not provide every feature that Flash does.

There are lots of example usages of HTML5. For example, YouTube has an opt-in choice that shows videos by using <video> tag of HTML5. As another example, there is a HTML5 version of Angry Birds, which is one of the most popular mobile games. In addition, there is a HTML5 UI as KendoUI which is a UI like jQuery UI.

In our project, we plan to use "canvas" element of HTML5. It is simply a rectangular area on which we can draw our working area and object models.

JavaScript

JavaScript is a script language that provides lots of good things. It provides to make web pages dynamic. It provides to communicate with servers. It provides to validate forms. It provides mush more. JavaScript is very commonly used by web developers and we can say that almost every web pages uses JavaScript. Although it name includes "java" word and its syntax is pretty much like the one of Java, there is not a relation between two languages. JavaScript can be used eather by coding in HTML file (1) or adding a link to the JavaScript file which has a .js extension (2).

```
(1)
        <html>
        ...
                <script type="text/javascript">
                        alert("Hello World");
                </script>
        ...
        </html>
(2)
        <script type="text/javascript" src="external_javascript.js"></script>
```

As we mentioned above, JavaScript is used in billions of web pages. Some of the well-known web pages are www.google.com, www.youtube.com and www.facebook.com.

In our project, we plan to use JavaScript to communicate with the server and making the page dynamic.

JSON

JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is self-descriptive which means that humans can read and understand it easily. It is a text-format and completely language independent. It is simply made up with key-value pairs and is really good to be a message between client and server. Here is an example JSON object.

```
{"menu": {
        "id": "file",
        "value": "File",
        "popup": {
        "menuitem": [
                {"value": "New", "onclick": "CreateNewDoc()"},
                {"value": "Open", "onclick": "OpenDoc()"},
                {"value": "Close", "onclick": "CloseDoc()"}
        ]}
}}
```

JSON is also extremely commonly used especially in client-server architectures. It can be used with Yahoo! Web Services and can be used in Google Data Protocol. These are just two examples of the usage area of JSON.

We plan to use JSON as a message object to send server and receive from the server.

KORKMAZ, Ozan

PROCESSING AND PROCESSING.JS

Processing is a programing language that is written in Java to provide user to create images, animations, interactions and visualizations. Processing is an open source and can be run all operating systems. It has additional properties like OpenGL integration to accelerate 3D implementations, libraries to convert software into sound, video and so on. In addition to these, it has also own editor for programmers or it can be adapted to Eclipse.
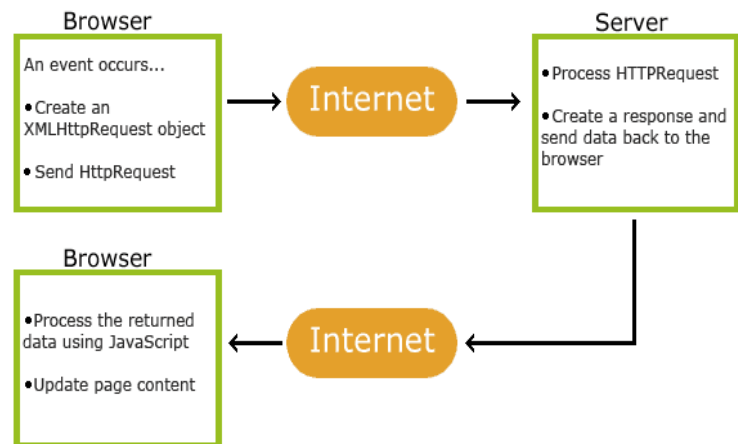
Processing.js is a library to provide programmers to make web based programming easily. It is main purpose is to run written Processing code on web. That is, what a programmer does, is to write code and send it to Processing.js. It makes Processing code to be runnable on any HTML5 compatible browsers.

Today, Processing is used with Processing.js by most of programmers who are interested in data visualizations, digital art, interactive animations, graphs, games. An information visualization example written with Processing.js, Letter-pairs analysis, was written in Processing by using the help of Processing.js to make program runnable on web. It can be reached at http://www.m-i-b.com.ar/letters/en/ . Other example is Facebook, Twitter connected application, Fizz (http://fizz.bloom.io/) which uses Processing.js and other equipment.

In our senior project, we plan to use Processing and Processing.js to create glory user interface for iFlowEdit Project. Creating visual objects on canvas, connecting relations to expected points and similar visual operations will be done with these.

AJAX

Ajax is a web development kit used on client side to provide a system of sending and receiving data from server side of web application. As in the name of Ajax, asynchronous JavaScript and XML, it provides client side of web application an ability to change application data without an effect on display and flow of web application.

Today, most of web pages use Ajax to handle communication issues like data sending or receiving. From a little blog page to a big interactive banking page, web applications use Ajax frequently.

In our senior project, we plan to use Ajax to get and send information. This information will be most probably in JSON format. Toolbox information, feature box information, or user saved data will be maintained from server side to client side by the help of Ajax.