

Allow to crop/resize/rotate images when inserting them

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Academic Details:

- Masters in Information and Technology from DAIICT Gandhinagar (2014-2016)
- Bachelors in Computer Applications from The Maharaja Sayajirao University of Vadodara (2011-2014)

Time Commitment and Work timings:

- I can spend 45-50 hrs per week on this project.
- I would prefer to work during morning hours.

What is the goal of this project?

Main aim of this project is to enable user to automatically crop the image files while uploading them. Users usually tend to upload large size of images, this has drastic effects on performance, usability and UI of the system.

Our system needs to detect files that are images and then ask user to specify image size or it should automatically resize and store the default size that is required. This preset size can either be the one decided by the system administrator (*default size*) or one that current user has set. We need to implement this feature for all kind of file uploads, i.e. Single File, Multiple files or ZIP files.

Motivation:

Atto is the text editor which has a file picker plugin. Using this plugin user uploads files in moodle. As user is not aware about the implications of uploading huge file onto the server, they do not resize it. But we being the developer knows how difficult it is for the server to handle such big files and serve those files when request is made.

Technical Details:

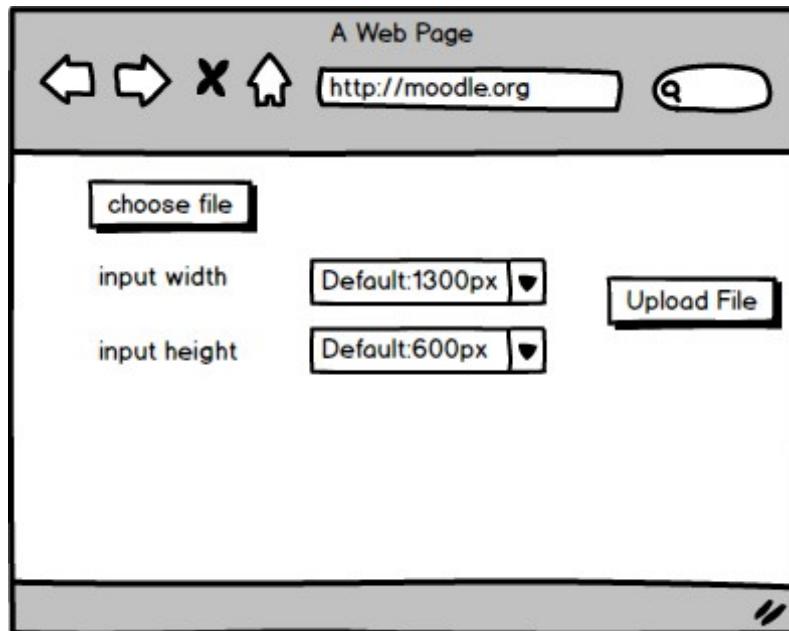
Atto is text editor built using javascript and most of its code is written as a standard moodle YUI (javascript library) module. All the functionality available in this editor are implemented as Moodle subplugins.

We need to create one subplugin which can be added to file picker plugin, which help user to crop/resize the image. This subplugin can be developed as YUI module.

Implementation Details:

Every time a user upload file/s we and if that is image, we ask user resize the image within certain range. If they do not provide the size explicitly then image will be resized to default size set by the administrator of the system.

Asynchronous request could be made to server while uploading the file and preview of file can be shown to the user. With this preview we can provide crop/resize/rotate functionality to the user. After that editing we can now save image to the server.



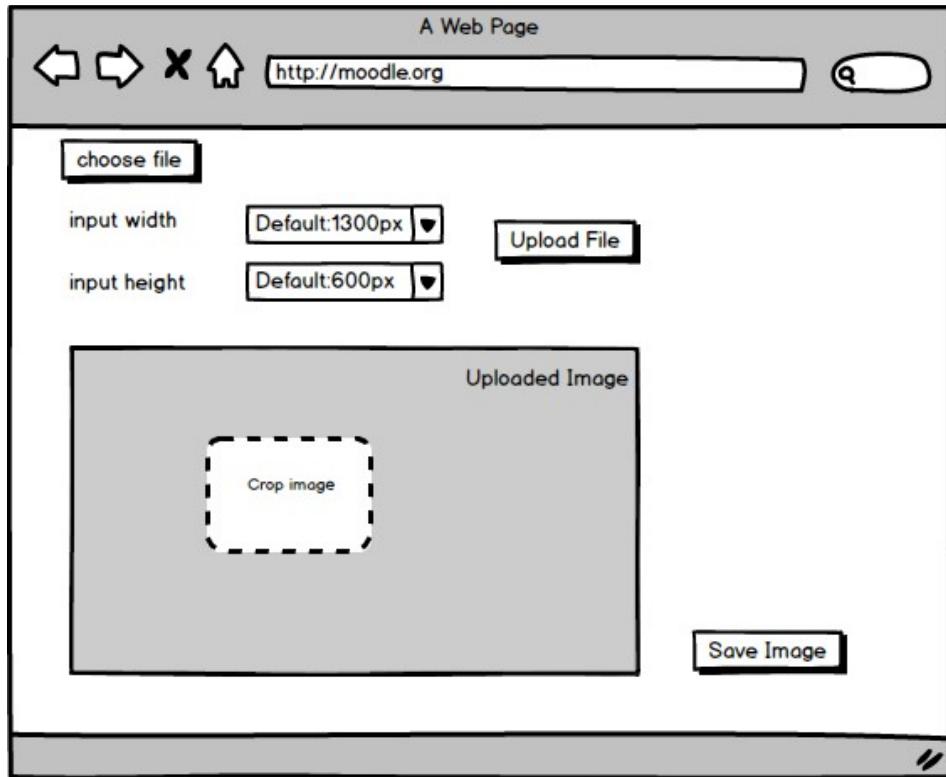
Once the user clicks upload file button it triggers the event of YUI on that button and can send and receive data asynchronously.

YAHOO.util.Connect class of YUI library allows us to send async request and data along with it.

```
YAHOO.util.Connect.asyncRequest('POST', 'destination', function(data) {
    //sending data
    //call to editor that is to be applied on response image
});
```

Server side Implementation:

```
<?php
    $file=$_FILES['imageFile'];
    //upload to destination folder
    //send response
?>
```



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Once the image is available on the front end through async upload of image we can use ImageCropper widget from YUI library and can also define event on it.

In the above upload function when aysnc transfer is made, the response data which is in form of JSON will be used to instantiate it on editor object which will help in editing the images.

```
editor: {
    image: null,
    crop: null,

    init: function(image) {

        editor.image = image;
        editor.crop = new YAHOO.widget.ImageCropper('');
        editor.crop.on('moveEvent', function() {
            //getting the cropped image
        });
    }
}
```

This plugin needs to be integrated with file picker plugin of atto editor, which is created as YUI module. We can add to the prototype of EditorFilepicker, YUI module of moodle.

I have tried implementing image cropping functionality using YUI, ajax and PHP. Link to the source code is as followed:

<https://github.com/lakhansamani/image-cropper>

Deliverables and timeline:

- Rich UI included in atto editor with file picker plugin (*25th May – 1st June*)
- Detect image file from the uploaded files (*2nd June – 7th June*)
- Settings to be included where system administrator / user can select the size of image, alignment, position (*15th June – 21st June*)
- Plugin which will automatically resize the image defined by the user/administrator (*22nd June – 6th July including midterm submission*)
- Asynchronous transfer of data which will allow user to view uploaded image (*13th July – 19th July*)
- Tool which will allow user to apply filter on the uploaded image (*20th July – 2nd August*)
- Integrating it as repository plugin and atto plugin (*3rd August - 9th August*)
- Testing documenting and making final changes in the project (*10th August – 21th August*)

Experience:

I have been working as a freelancer for Actonate and have developed various web applications. I have good hands on various web technologies like php, Javascript, jQuery, AngularJS, HTML5, CSS3, Node.js.

Links:

- Personal page: <http://lakhansamani.github.io>
- Github: <https://github.com/lakhansamani>