

## Workshop: Worksheet Creator 2 – Blended geometry for the class room

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Dynamic geometry systems are widely used tools to visualize geometry and calculus in class room. These tools enable the student to learn interactively by experimenting with geometric constructions provided by the teacher. In many situations teachers want to combine several constructions into a single “dynamic worksheet” running in the web browser. It should consist of several web pages containing geometric constructions, texts, and pictures, as well as questions, and tasks for the students.

To create such a web site the teacher has to know a lot about HTML, Java applets, and JavaScript. It is a time-consuming task to create a dynamic worksheet, even the adaption of an existing worksheet to ones own needs is not easy.

Hence, we built a tool called “Worksheet Creator 2.0 (XWC2)”. With this tool dynamic worksheets consisting of several geometric constructions can be created. The teacher only provides a worksheet title and description, creates slides by providing geometric constructions, a description of the problem and a set of tasks. Then the Worksheet Creator builds a set of HTML files the teacher can give to his pupils who can view them in any web browser – even on small multi-touch devices like the Apple iPad.

No knowledge about HTML or JavaScript is required. All one has to do is to give a description of the worksheet and to create slides. A slide is given by a title, slide description and a construction file created with your favorite dynamic geometry tool together with an exercise. With this user given data the XWC2 renders a HTML page which can be downloaded and given away to other users or it can be published on the XWC 2 web page.

While the predecessor called “Worksheet Creator” could only handle GEO-NE<sub>x</sub>T files, the new version supports the file formats i2geo (Intergeo), GEO-NE<sub>x</sub>T, GeoGebra, Cinderella, and JSXGraph. The latter by providing JavaScript code.

Worksheet Creator 2 (XWC2) itself is a web application, the generated dynamic worksheets are based on our math viewing library JSXGraph, see <http://jsxgraph.org>. XWC2 is free to use software.

In the workshop everyone is invited to experiment with the features of XWC2, also a short introduction in programming with JSXGraph is given.