


EuroMath Project

Project nr 2017-1-PL01-KA201-038548

NASK

 **DCU**

Visio 



Enhanced support to teachers
and learners with visual impairments
in inclusive educational settings
through innovative ICT-based math
instruction

01.10.2017- 01.07.2020

The project is carried out by
**Strategic Partnership for Innovation in Education,
Key Action 2 School Education of the Erasmus + program.**

NASK

POLAND

NASK National Research
Institute, Coordinator


DCU

IRELAND

Dublin City University
(DCU), Partner

Visio 

The Netherlands

Koninklijke VISIO
(Royal VISIO), Partner



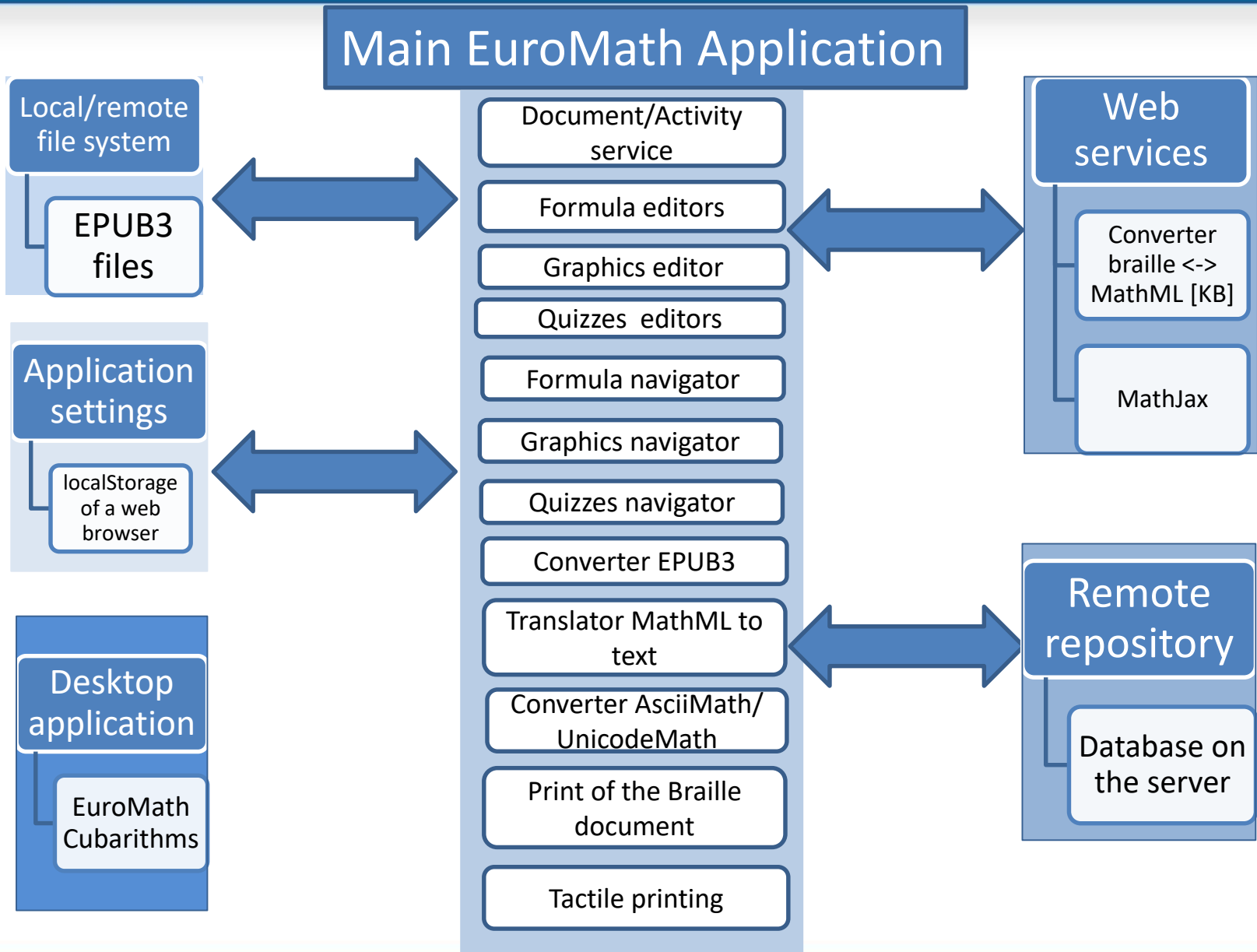
Goals:

1. Report on applied ICT tools supporting inclusive mathematical education, www.euromath.eu
2. Development of the EuroMath online platform supporting teachers and students with sight impairment in math
3. Development of an open repository of mathematical content (examples accessible worksheets with exercises and assignments, interactive content "as to how?", explanations for teachers)

Results (free):

1. Online applications consisting of the EuroMath platform available at www.euromath.eu
2. Math resources in the repository for teachers and students, accessible for visual impaired people
3. EuroMath Quick Start Guides

Structure of the EuroMath technology



What do we offer to the teacher?

Creating activity:

- Text
- Formulas
- Mathematical graphics
- An embedded Desmos Graph Calculator object
- Quiz
- Joining pairs ("sort cards")
- Sonification of SVG graphics
- Export / import of SVG, PNG, JPG graphics
- Links
- Export to Google Classroom
- Import math document from repository

Support of activities:

- One activity on one page of the document
- Activities on the pages of the EUB3 document
- Table of contents (activities)
- Navigating document pages
- Universal EPUB3 document accessible to everyone
- Concurrent work with many documents
- Saving documents locally, in the cloud or in the repository
- Publishing math documents in the repository

Editing:

- Text and text formatting
- Formulas with 3 formulas EuroMath editors (AsciiMath, UnicodeMath, Braille)
- Mathematical graphics with EuroMath Graphic Editor
- Quizzes with EuroMath Quiz Editor
- Exercise „Joining pairs“ with EuroMath Match Editor ("sort cards")
- automatically generated descriptions of math graphics supplemented by the teacher

Cooperation with external systems:

- Embedding Desmos Graph Calculator in the activity
- Import SVG graphics from GeoGebra
- Sonification of SVG graphics from GeoGebra
- Export activities to Google Classroom

Accessible navigation:

- Activity
- Document
- Formulas
- Math graphics (shapes & graphs)
- Quiz
- Joining pairs ("sort cards")

Accessible edition:

- Formulas with QWERTY or Braille emulated keyboards or keyboard shortcuts with additional touch gestures
- Geometric shapes with wizard in EuroMath Graphic Editor
- Function graphs with EuroMath Graphic Editor or embeded

Accessible exploration with NVDA & JAWS screen reader:

- Read the whole document page (activity)
- Reading the formula
- Reading a fragment of the formula
- Reading selected text (with formulas)
- Audibility geometric shapes (description, labels, coordinates)
- Audibility function graphs (variable monotonicity, min and max points of functions, points of intersection with axes)

*In the **EuroMath** project we work on new innovative specialized ICT tools supporting in our countries, Ireland, the Netherlands and Poland, teachers of mathematics as well as blind and visually impaired students in teaching and learning mathematics. We hope that teachers and students from other countries will also use EuroMath tools.*

**We invite you to share your needs and good experiences with us
using various assistive ICT tools in mathematics education.**

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