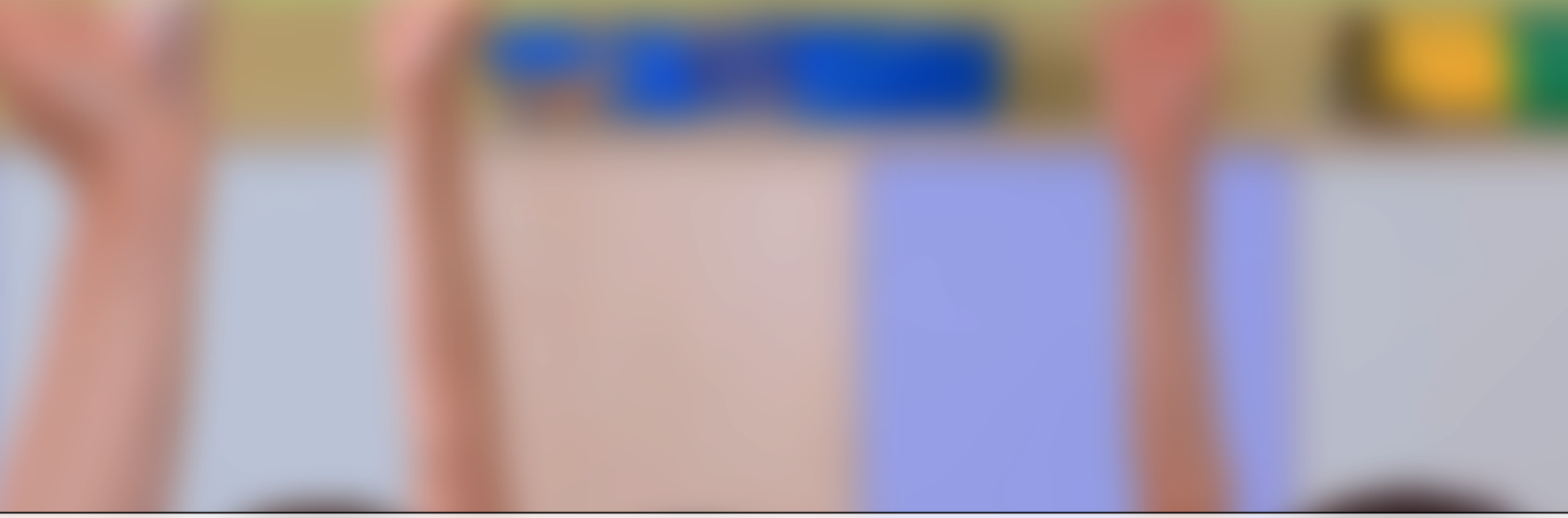

Interactive Funboard

Unpredictable Team

Instrukcja obsługi - user guide

English Version

HOME PAGE: **WWW.BOARDAPP.TIMIASTKO.PL**

User Manual platform "Interactive FUNBOARD" was established through language LaTeX based on the program TeXmaker/TeXworks. All information contained in it, graphics of the games, presentations, teaching aids are the intellectual property of authors of the project. Instructional background graphics were used under license **Creative Commons** [1]

Fifth edition, 11 april 2015

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Contents

1. Briefly about the project

1.1 Out team

First of all, we are colleagues who share many common interests. The composition of our team, "Unpredictable Team" (formerly "Rhino Bullets") includes three first-year students of Computer Science at the University of Gdansk: Krystian Trubisz, Rafał Lisiecki, Damian Żołądek and Karolina Kilian, a third year student of Applied Mathematics at the University of Gdansk.

Project is led by Krystian Trubisz, who is former intern in the Techland firm and currently ambassador in the Kainos firm. He is winner 3CityCup and Imagine Cup competition. His duties include, among others, leading a team and helping to create an educational platform content.

The main programmer of the project is Damian Żołądek, winner of many informatics competitions, computer games enthusiast, who for many years creates projects related to the three-dimensional graphics based on Unity3D engine.

Rafał Lisiecki is Author of whole platform. He is creator of Network Recruitment System for the Bytów county. He won experience among others on the project, data migration of Morpol S.A. firm to Marine Harvest network.

Karolina Kilian due to their experience, among others, in conducting the workshop "Mathematical miracles of paper" as well as collaborating with teachers of primary education, he led the creation of multimedia presentations and started taking care of the substantive aspects of our project.

Picture. 1.1: From left: Krystian Trubisz, Damian Żołądek, Rafał Lisiecki, Karolina Kilian

1.2 Why did we create this project?

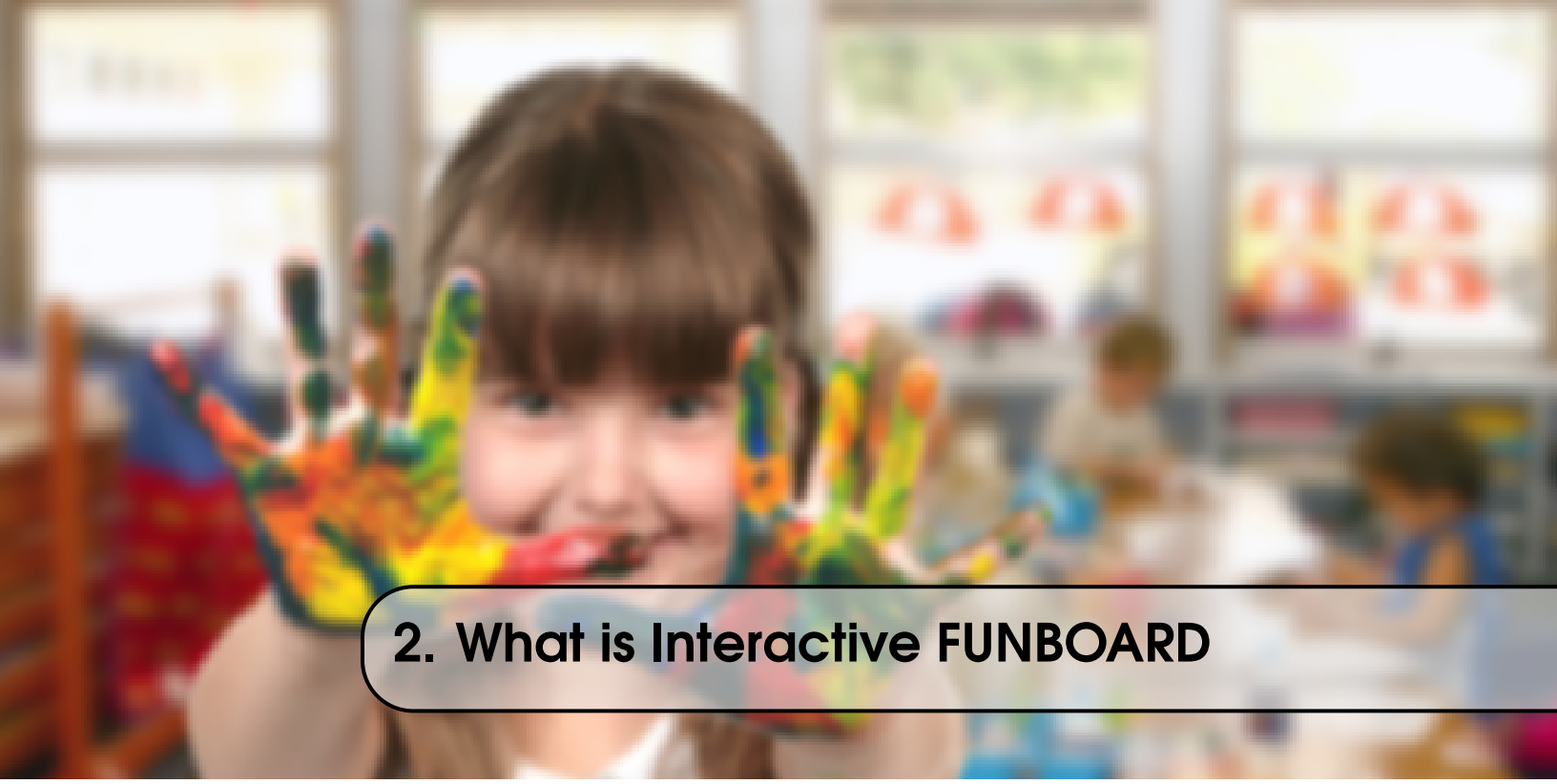
We reported to the competition mat2tab because we want to prove that students first years of study can easily compete with older vintages. We are ambitious and hungry for knowledge why we created a multi-media platform with a genuine, based on many smaller projects.

We know that the experience gained in this competition will contribute to our growth and will make us ready for even greater challenges. In the course of the work we have tried to build on the "Scrum" method of project management.

1.3 Why we decided on educational platform?

Our main purpose was to create something that no one had yet invented. Why should we duplicate someone else's ideas? The interactive boards have great potential, which in no way is used. We decided to change this.

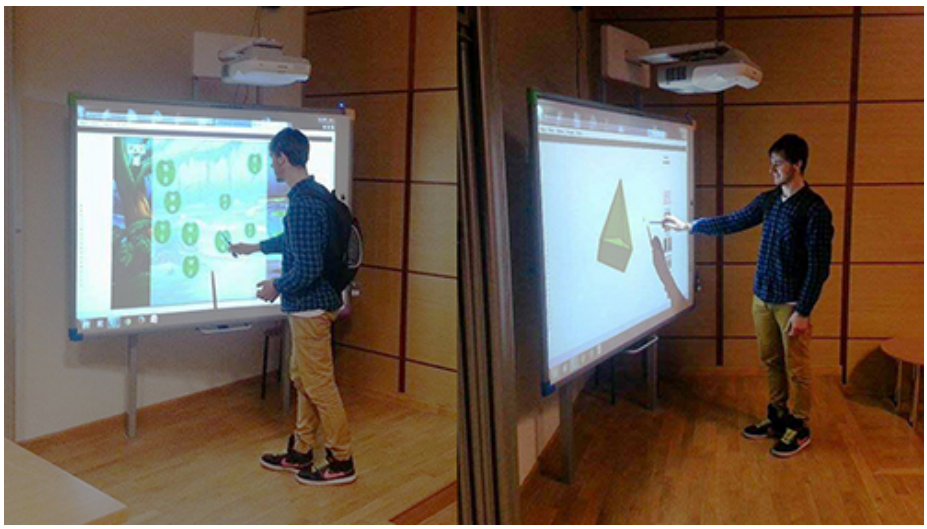
Our project is based on the many programs and programming languages. It is connected with that we are variety person. In the competition we would like to show our capabilities and expand their knowledge .



2. What is Interactive FUNBOARD

2.1 General description of the application

Our task was to create a multimedia platform designed to support the learning of mathematics through games associated with the use of interactive whiteboard. As we know in almost every school we can find interactive whiteboards, but unfortunately they are used at most as a normal projector.

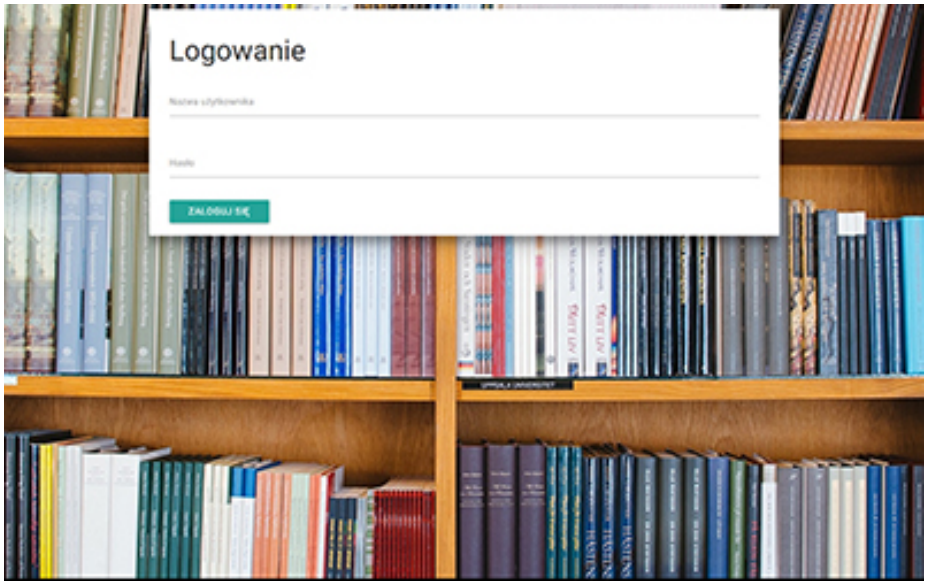


Picture. 2.1: Co-author of the project, who performs the last test final version of the project.

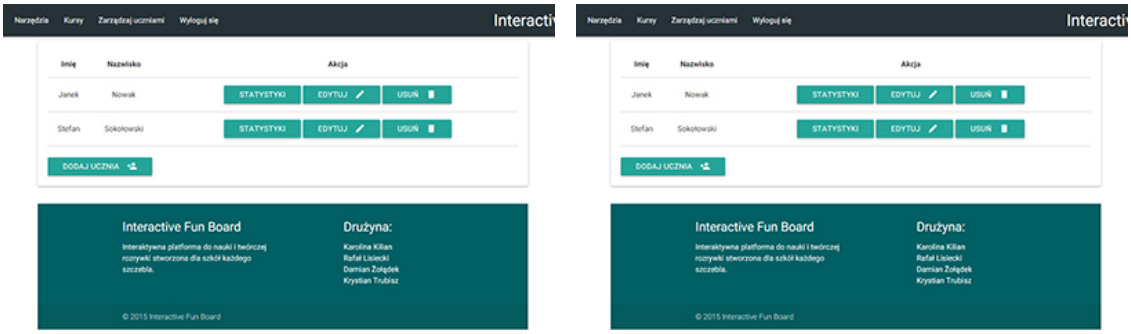
At this point, we create our project for the youngest pupils (class 1-3), but due to the fact that we created our own framework for adding next projects, in the later stages we will also create software for the upper classes. Our platform is built from many smaller components that action now we will try to explain exactly.

2.1.1 Website - the backbone of Interactive FUNBOARD

The main part of our project is website, that is created on our server. As software developers will not share users to (administrators - potential customers) of our project to install it on your own server.



Picture. 2.2: Interactive FUNBOARD Home page.



Picture. 2.3: Management Panel pupils with the opportunity to see student progres.

After purchasing our services, we create for our customers, teachers (administrators), an account on our platform. After logging in to the website, the teacher assigns students and adds them to the class, creates them own accounts. The entire platform is based on a simple scheme:

- Creating an account of teacher
- Adding user accounts by the teacher.
- Selecting kind of lesson by the teacher (lecture - interactive presentation, playing mathematical or additional software.
- Before playing the game, the teacher selects the pupil, that will use the platform. It is required to keep track of his progress in the course of further education.
- After the presentation the teacher can further evaluate students.

- At home, students have access to similar games that are played on the lessons so can easily prepare for classes.

We want users to be able to use the platform at home to keep track of your progress in education. Additionally, we introduced a system of charts that allow you to easily assess what contribution the education system has Funboard Interactive.

2.1.2 Multimedia Presentations

Picture. 2.4: Example of a multimedia slide presentation

Thanks to the cooperation with teachers primary education classes, we created a series of presentations to improve the lessons taught by teachers. After logging in to the platform teacher may choose the scope of the lecture and make it available on whiteboards.

Program content interspersed with interactive tasks for which solutions are take students. After completing the course the teacher can reward the activity the students.

2.1.3 Interactive games

Based on the acquired knowledge we created a game to help kids. In a pleasant way to understand the issues discussed. The teacher chooses a student who will benefit from the array and turn on him the appropriate game.

After graduating the game, the database is sent information about the results of the student and statistics are compiled. A student can at home to play a similar game and to practice in a pleasant way. It is a great way to come better prepared for future classes.

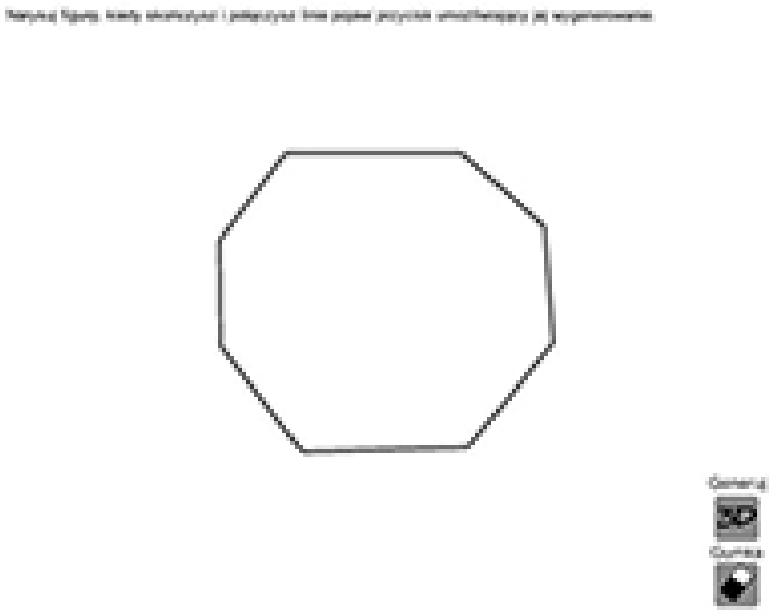
2.1.4 Support Tools

Our platform could not exist without the tools to support the work of teachers. We know how hard at the beginning to explain to students how they look spatial figure and what is the function. Thanks of designed by us tools to yourself create figure, a student can easily assimilate what is a prism and the center of gravity base. How does it work in practice?

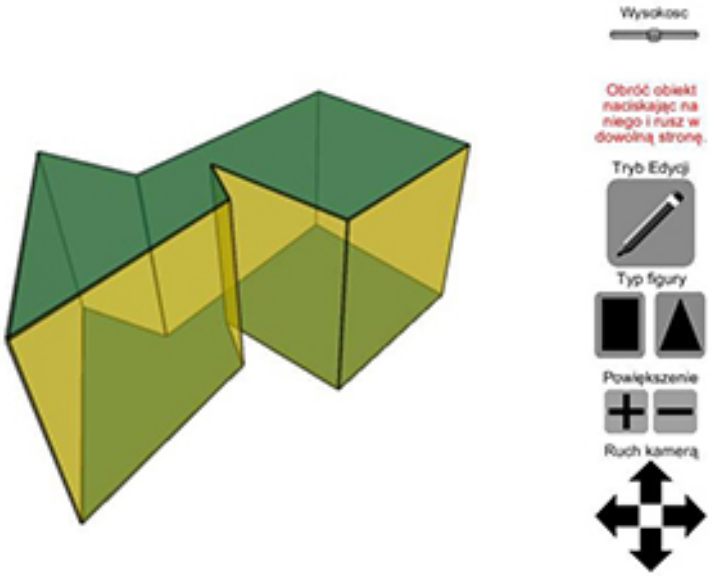
- Drawing of base of structure.

Picture. 2.5: The game assist in the teaching of mathematics in primary education.

- Turning on mode of rendering of spatial figure on drawing base of structure.
- Adapting the structure thanks to choosing relevant parameters: the type of walls, height, tilt angle.
- The total ability to rotate rendered objects, which perfectly will understand and imagine what in fact are the spatial figure.



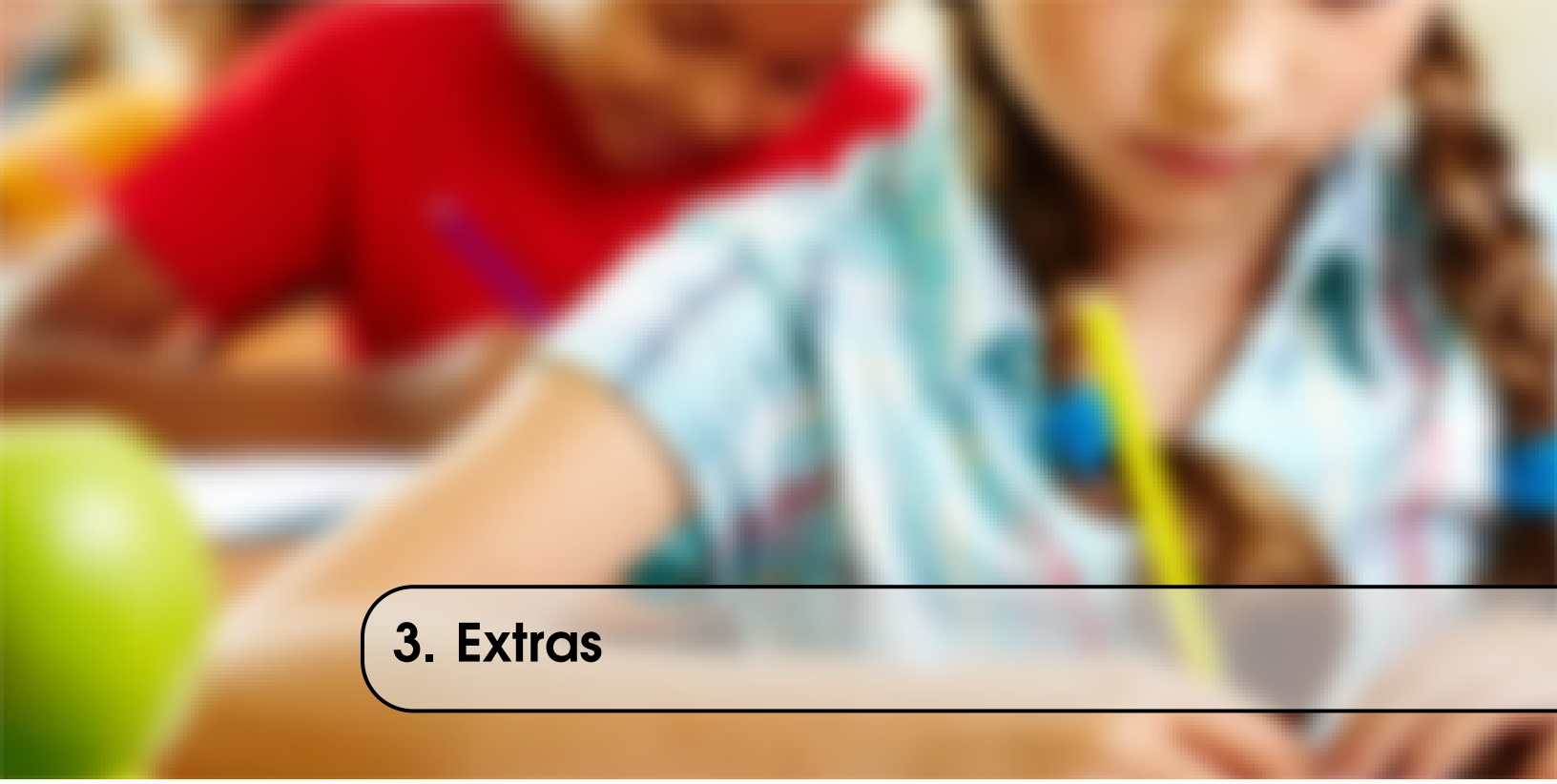
Picture. 2.6: Example of designed figure



Picture. 2.7: Created prism

2.2 Used technology

The platform was developed using PHP and MySql. To support template library is used Smarty2, through which we separate the logic and data model from view. To data operations and uses modern object-oriented class PDO 3 . Support tools and interactive games were made in the Unity3D engine. With object-oriented approach to application development framework personally designed allowing us to add multiple games, expropriating previously created features. Presentations developed in cooperation with teachers, were done in Powerpoint and later editing FOR IN convert to SWF (corresponding to Flash)



3. Extras

3.1 Manual

To use our platform enough to install on your computer a Web browser that supports plug the Unity Web Player, Flash and CSS style sheets. Of course, to use the Interactive Funboard Internet connection is required.

3.1.1 Using Platform

1. Input the website www.boardapp.timiastko.pl.
2. Log on to the appropriate user account.
   - Teacher Account Login - nauczycielmat2tab, Password - 123.
   - Student Account Login - uczenmat2tab, Password - uczenmat2tab.
3. Create accounts of students in tab Zarządzaj uczniami
4. Selecting the appropriate teaching material - Games, Tools Courses.
5. Monitoring a students progress in tab Zarządzaj uczniami.

3.1.2 Interactive math games

1. After a successful login to the platform must choose the tab gry.
2. After reading the description of the game and the level of difficulty, turn the appropriate game
3. Before playing the teacher chooses the person who will use the interactive whiteboard.
4. After completing the game, the player gets information obtained as a result . The result is additionally placed in a database user.

3.1.3 Support tolls

1. After a successful login to the platform must select the tab Narzędzia.
2. After reading the descriptions, select the right tool.
3. We use the prepared materials by combining them with the capabilities of an interactive whiteboard.

3.1.4 Interactive courses

1. After a successful login to the platform should select the tab Kursy.
2. After reading the descriptions we choose the right course.
3. We adjust the top panel (preferably by 1/1) exchange window to our browser.
4. We invite the students to the array. Using two pens made improving children.
5. After completing the course, you get the ability to add additional points to the accounts of students.

3.2 System requirements

- Interactive Whiteboard 3
- System operacyjny Windows XP/2000 Pro/Server 2003/Vista/2000 8/8.1/10, Linux, OS X.
- Internet connection.
- Installed browser plugins supporting Unity Web Player4 and Flash, and supports CSS3 style sheets.
- Plug Unity Web Player.
- Plug Flash Player.