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A Gamified Platform for
Surveying Digital Maturity of Primary Schools

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Contents

Introduction

As part of the project e-Schools - Development of Digitaly Mature Schools' System (cro. e-Škole - Razvoj sustava digitalno zrelih škola) the Framework for Digitally Mature Schools (FDMS) and an instrument for assessing the level of digital maturity of schools was developed [1].

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In order to foster survey participation we have chosen to use gamification principles to enhance FDMS and make it more accessible to elementary school students, especially grades 1 through 4.

Digital Maturity

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The assessment instrument enables schools to measure their level of digital maturity from the perspective of

- principals,
- teachers,
- pupils.

Game Design and Implementation

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2. Choose and implement a set of gamification techniques:
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Game Design and Implementation

Figure 1: Game character creation

Game Design and Implementation

Figure 2: Album of collectable cards

Figure 3: Four example maps of the game
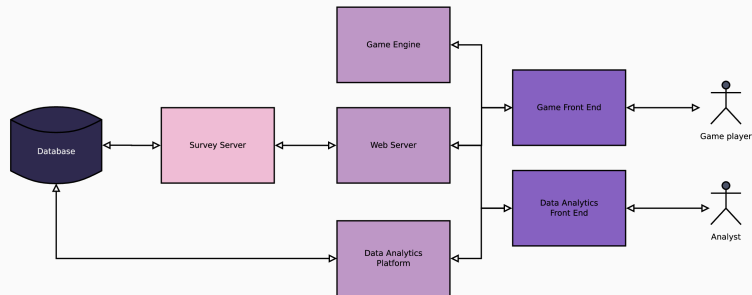
Figure 4: System architecture

Pilot Study

Pilot Study

A total of 20 schools and 1194 students participated in the pilot study.

During the pilot study all teachers were provided with detailed instructions.

We have created a small survey to collect feed back information from both students and teachers.

Pilot Study

The survey consisted of the following questions:

1. Were the instructions clearly defined? (1 - very unclear; 5 - very clear)
2. How much time was necessary for the students to finish the game? (less then 10 minutes, 10-20 minutes, 20-30 minutes, more then 30 minutes)
3. How interested were the students in solving the game? (1 - very uninterested, 5 - very interested)
4. Which part of the game was the most interesting one? (open ended)
5. Which part of the game was the most challenging one? (open ended)
6. Were the questions intelligible to students taking into account their age? (yes/no/undecided)
7. Do you have any additional suggestions for improving the game? (open ended)

Pilot Study

Results

A total of valid $n = 134$ responses was received.

Pilot Study: Results
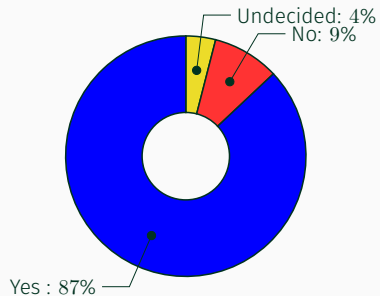
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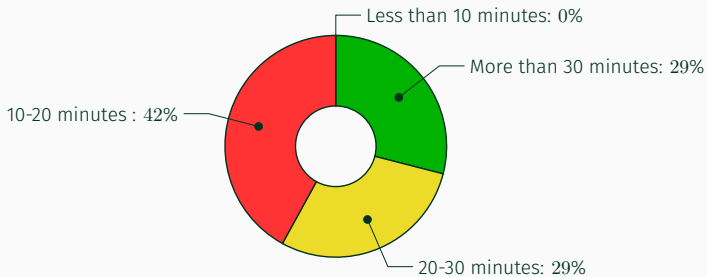The instructions were very clear (average 4.38, median 5).

The interest of students was very high (average 4.35, median 5).
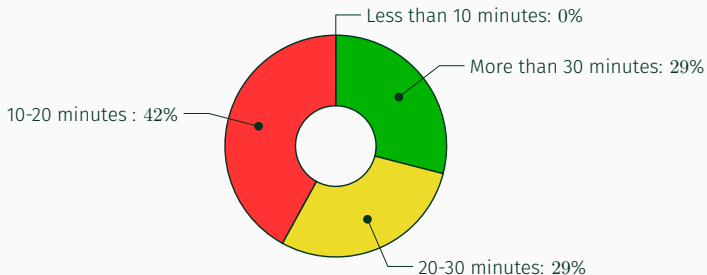
Pilot Study: Results

Figure 5: Clarity of questions

Pilot Study: Results

Less than 10 minutes: 0%

More than 30 minutes: 29%

10-20 minutes : 42%

20-30 minutes: 29%

Figure 6: Total play time

Less than 10 minutes: 0%

More than 30 minutes: 29%
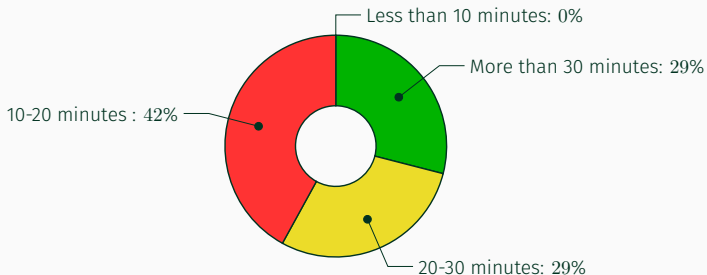
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The answers to open-ended questions were inconclusive, but helpful.

Conclusions

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The feedback survey of the conducted pilot study showed that the interest of students was very high. Most students thought that the questions were clear and understandable. Additionally, the student gave us some interesting ideas to further enhance the game as well as detected some bugs that have to be resolved.

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Our future research:

- making the game even easier to use;
- conducting a full survey with the game in all Croatian elementary schools;
- further enhance our FDMS framework and integrate a students' perspective of digital maturity into it.

Acknowledgement

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