Motivation
Interactive online proofs
The main project

An online smart, interactive, collaborative, multilingual database of mathematical theorems and proofs

Karina Figueroa-Mora and Luis Valero-Elizondo

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This talk is available online at
computo.fismat.umich.mx/~valero

Work in progress

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First proofs

Fact

A college student who's beginning to study advanced mathematics
needs a lot of practice with proofs.

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Problem

Understanding mathematical proofs is very hard for someone who is not familiar with them;

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Fact

A college student who's beginning to study advanced mathematics needs a lot of practice with proofs.

Problem

Understanding mathematical proofs is very hard for someone who is not familiar with them; writing their own proofs is even harder!

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What to do?

Best solution ...

In an ideal situation, the teacher would take the student by the hand and go in great detail over all proofs that have been seen in class,

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What to do?

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In an ideal situation, the teacher would take the student by the hand and go in great detail over all proofs that have been seen in class, and would also help the student when writing the proofs that are given as homework.

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What to do?

Best solution …

In an ideal situation, the teacher would take the student by the hand and go in great detail over all proofs that have been seen in class, and would also help the student when writing the proofs that are given as homework.

… but impractical!

But in a class of 20 or more students, the teacher may not have enough time to devote to each student to help them to understand and write proofs.

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Need help!

A proof tutor

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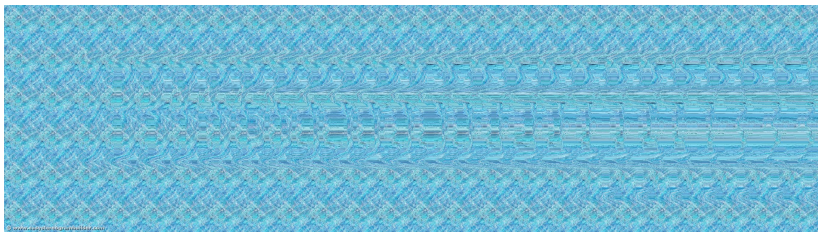
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small part of a much larger project.

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The website

A more ambitious project

We want to add much more to this website than just interactive
practice with proofs, so now let's look at the big picture

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The big picture

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Our ultimate goal

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- a database in which to search for theorems and proofs, from simple calculus theorems to the latest new research

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- customized online courses based on theorems and proofs

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Final words

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Thank you!