



Provelt

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Motivation

Program Verification, as it is done today, is not a cost effective task. It requires programmers to manually insert program verification code, add code annotations and remove bugs. Not only is this entire process tedious, but it is also very time consuming. This affects everyone since the time that programmers spend in this entire process could have been spent elsewhere, thereby making this process not a cost effective one.

Approach

We would automatically convert the code for a software into an online game that could be played on mobile and other low data and/or low memory devices. The completed state of the game can be converted into a proof of correctness, or can indicate the need and potential location of a bug fix.

The game is beneficial and better than the current method of proof because:

- It requires a low skill level and doesn't require any software development skills
- As it is a fun game, people are interested in playing it which causes more software to be proven
- The ability for multiple people to play at the same time allows for more software to be proven
- This system is much cheaper and faster than the current method

Challenges and Risks

Our two big challenges and/or risks are:

- We need to find a solid method to convert the code into a game that will always end
- We do not have anyone who can design and/or create a game on our team