Name: Ethan Arterberry
Period: 5
Start Date: 9/2/14
End Date: TBD

Engineering Design

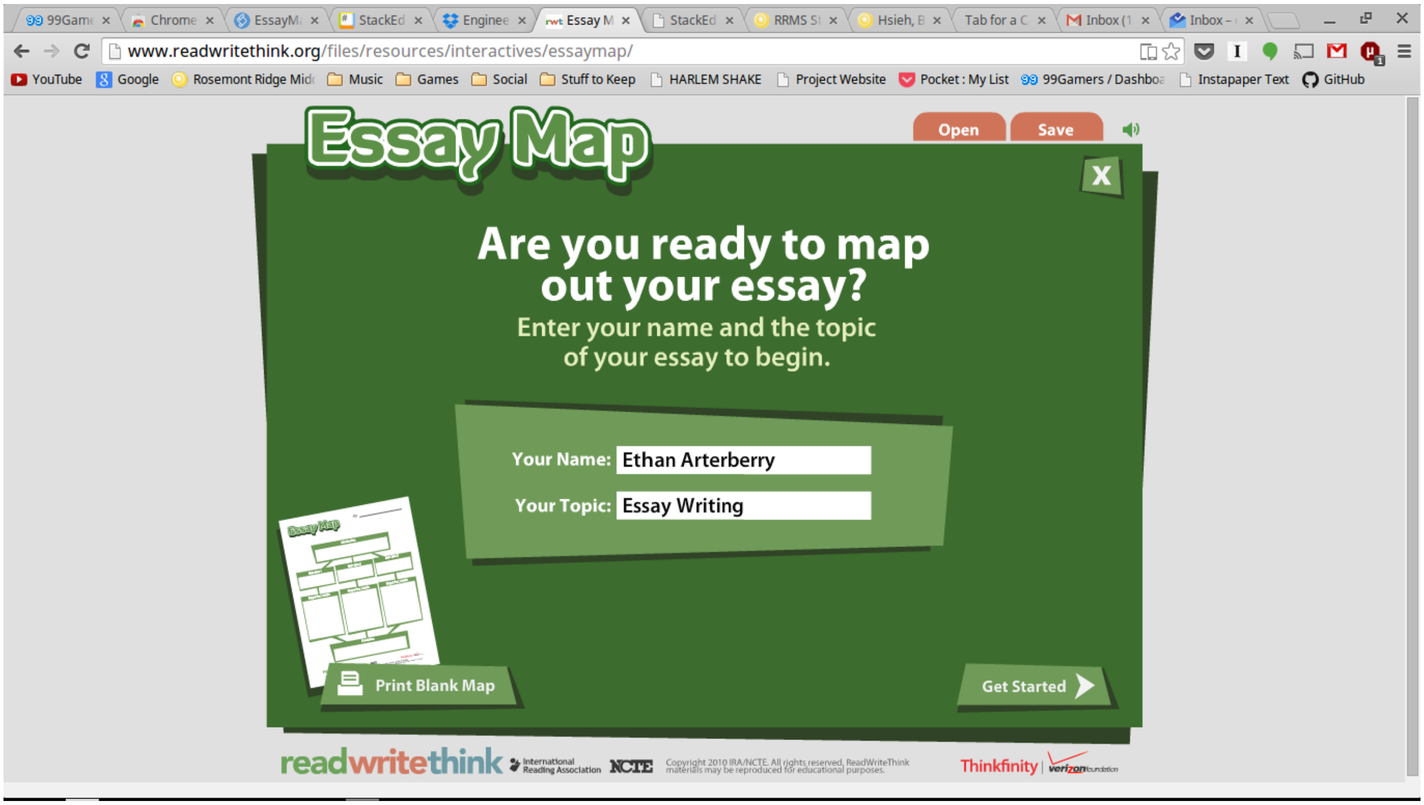
Define the problem.

State the problem:

Graphic essay organizers are old and tedious. They require rewriting things at least 1 time and creates a disconnection from the topic just because it is boring to write it so many times.

I have made a graphic essay organizer that takes your organized thoughts and puts them into an essay.

Background Information:



www.readwritethink.org/files/resources/interactives/essaymap/

Are you ready to map out your essay?

Enter your name and the topic of your essay to begin.

Your Name: Ethan Arterberry

Your Topic: Essay Writing

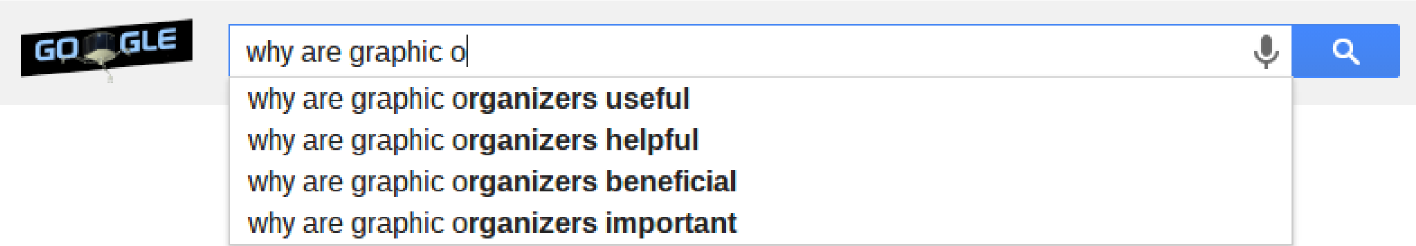
This is an existing *solution*. It is called Essay Map, for one thing, just a programming critique, it is built in age old Flash, a messy language that requires a bunch of stuff and is just downright slow.

One thing you need to know is I **love** organizers. But when do they get to the point where they could be updated and made amazing and new and perfect and *awesome.*

Organizers are ***proven to be effective.*** This study shows how using technology and graphic organizers can really improve learning. So the logical thing is to smash those two learning hotspots into one.

Back to Essay Map, it also does something kind of stupid, not to insult readwritethink, they are great, but it spits out your Essay Map into an essay organizer that you can print to write down again. Now this is okay, but also very impractical.

You can already tell based on the Google suggestions!



why are graphic o

why are graphic **organizers useful**
why are graphic **organizers helpful**
why are graphic **organizers beneficial**
why are graphic **organizers important**

Just joking, by the way. Still cool!

The obvious other solution is the traditional essay organizer, that sheet of paper that Mrs. Coreson (my LA teacher) has voiced to me that she hates them and likes outlines better. I want to change that.

References

Brown, Marjorie. “Effects of Graphic Organizers on Student Achievement in the Writing Process.” GRAPHIC ORGANIZER EFFECTS ON THE WRITING PROCESS. EDUC 531 Field-Based Research Block 1, 12 Dec. 2011. Web. http://files.eric.ed.gov/fulltext/ED527571.pdf.

Evaluation Criteria and Constraints

Evaluation Criteria:
If EssayMaker can allow students to get the same grade or higher than using a regular essay organizer in a lesser amount of time, **then my design is successful.**

Constraints:
Just time. I have already finished a prototype (here are some screenshots :), and it is perfect in my terms. All I have to do is test it and finish this paper I’m writing right now and I’m done.

Design of Solution

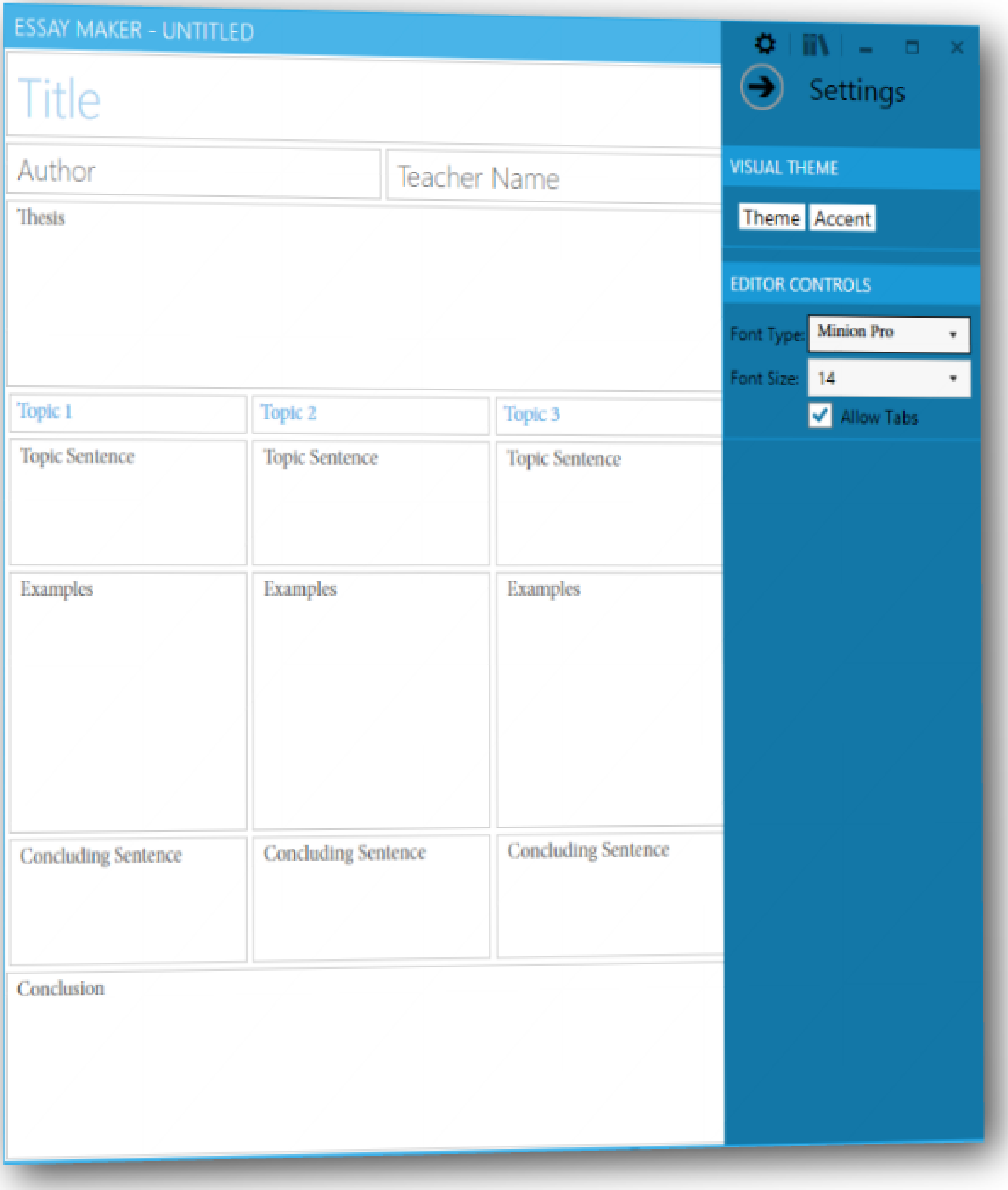
Well, I don’t really need to write about this because it is already done as I’m writing this. I’ll give links instead.
Screenshots!
Website! (essaymaker.me or essaymaker.pw (power to essaymaker!))
Download it!

Solution:
I made an online/downloadable essay organizer that takes your organizer and makes it into a turn in-able essay. Formatting done!

Claim:
I think EssayMaker will allow people to create high-quality essays in less time than a regular organizer. I don’t think, **I know.** I’ve already made 3 essays with this program, and its saved me a ton of time that I would be spending trying to figure out the formatting and structure.

Creation of a Prototype

These few sections are invalid for my purposes, it’s already done.



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☑ Allow Tabs

(By the way, that's what happens when you work on something for a collective 6 years. *IT'S SO BEAUTIFUL!*)

- Visual C# 2010 Express
- Computer (generic - I used two of them for development)
- Some DLLs such as MahApps Metro for the design of the program (that's why it looks so awesome!).
- Oh, and GitHub, for storage.

That about wraps it up!

Testing the Prototype

Evaluation Criteria:
If EssayMaker can allow students to get the same grade or higher than using a regular essay organizer in a lesser amount of time, **then my design is successful.**

Dependent Variable(s):

- Grade
- Completion time

Controlled Conditions:

- No talking.
- Essay topic.

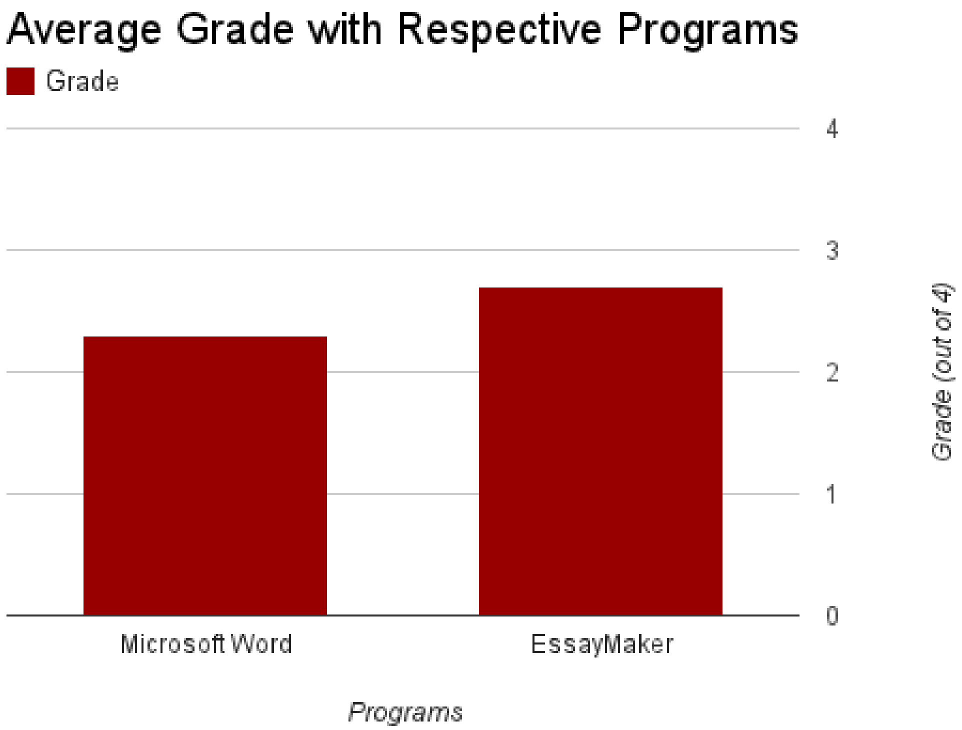
Testing Procedures:
Each student will be asked to write an essay in the persuasive format One group of ten will write an essay with EssayMaker, and the other group with a regular pencil-paper essay organizer, and transfer it to paper. They will then turn them in and the next day will switch and write with the opposite tool.

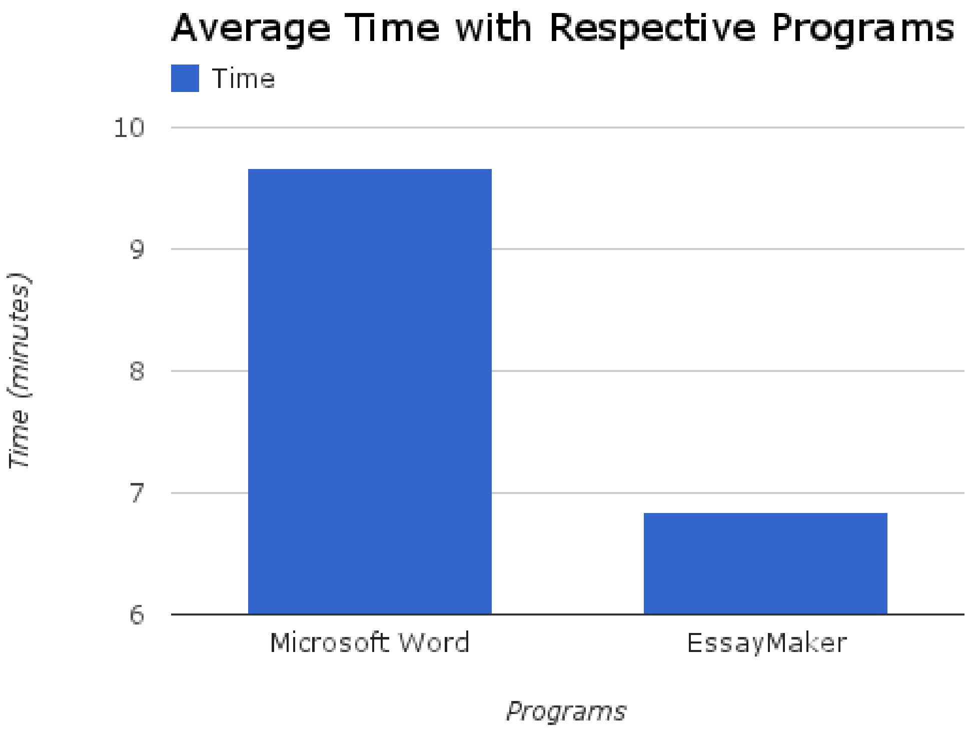
Oh! I almost forgot the essay topics!
Essay 1: *Should students be able to use cell phones in school? Why or why not?*
Essay 2: *Should students wear uniforms to school? Why or why not?*

I kept it to school related topics because I assume everyone has been to school before and is opinionated on these subjects, or if they aren't it will be easy to create an argument. The essay needs to be simple enough that it doesn't require knowledge that would sway the actual results.

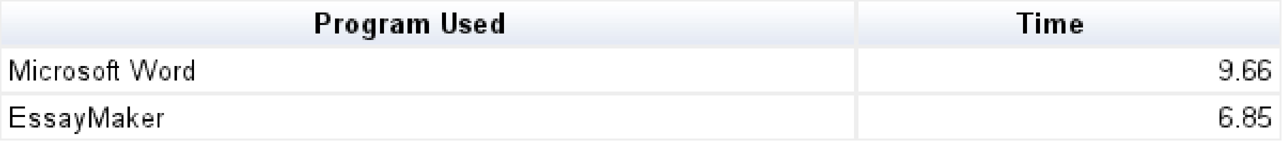
Data Collection

Graphs:

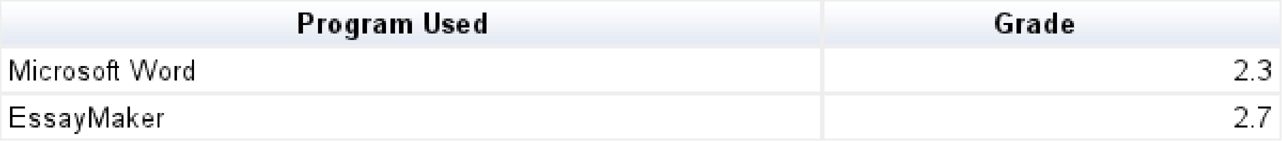

Average Grade with Respective Programs
Grade
4
3
2
1
0
Grade (out of 4)
Microsoft Word
EssayMaker
Programs


Average Time with Respective Programs
Time
10
9
8
7
6
Time (minutes)
Microsoft Word
EssayMaker
Programs

Data Tables:



Program Used	Time
Microsoft Word	9.66
EssayMaker	6.85



Program Used	Grade
Microsoft Word	2.3
EssayMaker	2.7

Explain Patterns and Trends

EssayMaker beats Word anyday. The average numbers are **significantly** greater when using EssayMaker over Word. EssayMaker is faster, better, and stronger than Word.

Results of Prototype Test

In the beginning, I thought EssayMaker would allow people to create high-quality essays in less time than a regular organizer. I didn't think, **I knew.** I had already made 3 essays with this program, and its saved me a ton of time that I would be spending trying to figure out the formatting and structure. ***And as it turns out,*** **I knew right.** EssayMaker really does live up to the claim, pretty amazingly.

Evaluation of Solution

Firstly, I have an exact list of changes that I made to EssayMaker when it was on GitHub here.
But the major additions made were a complete design overhaul which was submitted by a member of the open-source community, and being able to save. There were some tradeoffs due to lack of programming skill and knowledge at the time, but are going to be added in the future. These include: better formatting control, bug fixing, etc. Instead I focused on getting the sciency stuff done first.

Improving the Design

There are a few things that I would change to improve the design. The biggest one being spellcheck. Spellcheck is important because of it being in Microsoft Word and many other programs across the web. Other examples of additions include a rich text editor with more formatting options, and other things like that.