

Eternity Calculator

Project Organization & Summary

Team I

COMP 354 - Summer 2021

June 11, 2021

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Initial Project Meeting

- ▶ Decision of the technology and language for Eternity

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- ▶ Decision of the technology and language for Eternity
- ▶ Breakdown of team members' skills, tasks and responsibilities

Initial Project Meeting

- ▶ Decision of the technology and language for Eternity
- ▶ Breakdown of team members' skills, tasks and responsibilities
- ▶ Organization of future meetings and communication
 - ▶ Discord



Project Breakdown

- ▶ Leader - Project and repository organizer
- ▶ Documentation
- ▶ Full-stack Developer
- ▶ Back-end Developer
- ▶ Front-end Developer
- ▶ Communication and resources

Roles

Leader: Robert

Documentation: Xavier, Sobhan

Full-stack Developer: Chelsie

Back-end Developer: Elijah

Front-end Developer: Michael

Communication and resources: Hao Mei

Major presenter: Michael

Minor presenter: Robert

GitHub Repository



More than a code hosting platform for version control:

GitHub Repository



More than a code hosting platform for version control:

- ▶ Issue tracking

GitHub Repository



More than a code hosting platform for version control:

- ▶ Issue tracking
- ▶ Kanban board linked to current issues

GitHub Repository



More than a code hosting platform for version control:

- ▶ Issue tracking
- ▶ Kanban board linked to current issues
- ▶ Documentation - wiki

GitHub Issues

3 Open ✓ 8 Closed		Author ▾	Label ▾	Projects ▾	Milestones ▾	Assignee ▾	Sort ▾
<input type="checkbox"/>	<input checked="" type="checkbox"/> Report for D1 documentation	#12 opened 23 hours ago by weibolu-rm 🔗 Deliverable 1					
<input type="checkbox"/>	<input checked="" type="checkbox"/> Presentation for D2 documentation	#11 opened yesterday by weibolu-rm 🔗 Deliverable 2					
<input type="checkbox"/>	<input checked="" type="checkbox"/> Work on personas documentation	#9 by weibolu-rm was closed 3 days ago 🔗 Deliverable 1					
<input type="checkbox"/>	<input checked="" type="checkbox"/> Web template	#8 by weibolu-rm was closed 6 days ago		🔗 1		💬 1	
<input type="checkbox"/>	<input checked="" type="checkbox"/> x^y implementation	#7 by weibolu-rm was closed 3 days ago				💬 6	
<input type="checkbox"/>	<input checked="" type="checkbox"/> sinh(x) implementation	#6 opened 13 days ago by weibolu-rm					
<input type="checkbox"/>	<input checked="" type="checkbox"/> σ (Standard Deviation) implementation	#5 by weibolu-rm was closed 3 days ago				💬 1	
<input type="checkbox"/>	<input checked="" type="checkbox"/> MAD (Mean Absolute Deviation) implementation	#4 by weibolu-rm was closed 6 days ago				💬 1	
<input type="checkbox"/>	<input checked="" type="checkbox"/> logb(x) implementation	#3 by weibolu-rm was closed 3 days ago				💬 1	
<input type="checkbox"/>	<input checked="" type="checkbox"/> ab^x implementation	#2 by weibolu-rm was closed 3 days ago				💬 1	
<input type="checkbox"/>	<input checked="" type="checkbox"/> arccos(x) Implementation documentation	#1 by weibolu-rm was closed 3 days ago				💬 2	

Kanban Board

The screenshot shows a Kanban Board for the project 'Eternity Calculator' by user 'weibolu-rm'. The board is divided into three columns: 'To Do', 'In Progress (this week)', and 'Done'. Each column contains task cards with details like titles, counts, and assignees. The 'To Do' column has one card, 'Report for D1'. The 'In Progress' column has two cards, 'sinh(x) implementation' and 'Presentation for D2'. The 'Done' column has eight cards, including 'ab^x implementation', 'x^y implementation', 'arccos(x) Implementation', 'Work on personas', 'σ (Standard Deviation) implementation', 'Web template', 'logb(x) implementation', and 'MAD (Mean Absolute Deviation) implementation'. Each card includes a count, the user 'weibolu-rm', and a 'documentation' link. The board also features a 'Filter cards' search bar at the top right and 'Automated as' labels at the bottom of each column.

weibolu-rm / ETERNITY > Projects > Eternity Calculator

Filter cards

1 To Do

- Report for D1**
#12 opened by weibolu-rm
[documentation](#)
📎 Deliverable 1

Automated as To do [Manage](#)

2 In Progress (this week)

- sinh(x) implementation**
#6 opened by weibolu-rm
- Presentation for D2**
#11 opened by weibolu-rm
[documentation](#)
📎 Deliverable 2

Automated as In progress [Manage](#)

8 Done

- ab^x implementation**
#2 opened by weibolu-rm
- x^y implementation**
#7 opened by weibolu-rm
- arccos(x) Implementation**
#1 opened by weibolu-rm
[documentation](#)
- Work on personas**
#9 opened by weibolu-rm
[documentation](#)
📎 Deliverable 1
- σ (Standard Deviation) implementation**
#5 opened by weibolu-rm
- Web template**
#8 opened by weibolu-rm
1 linked pull request
- logb(x) implementation**
#3 opened by weibolu-rm
- MAD (Mean Absolute Deviation) implementation**
#4 opened by weibolu-rm

Automated as Done [Manage](#)

[Actions](#) [Projects 1](#) [Wiki](#) [Security](#) [Insights](#)

Home

Sobhan-M edited this page 19 hours ago · 3 revisions

Edit New Page

Welcome to the ETERNITY wiki!

Here you can find a lot of information related to the ETERNITY project and the COMP 354 project as a whole.

Tools

On this page you will be able to find information about the tools used in the development of the ETERNITY project.

Interview

This page goes into more depth regarding the interview process and the questions asked.

Personas

This page includes the various personas and target audiences developed and brainstormed before and after the interview.

Iteration 1

This page contains the crucial information that relates to iteration 1. This involves both deliverable 1 and 2, as well as their respective requirements.

Roles and Function Assignments

These pages discuss how the work of the project was distributed amongst the collaborators. It also explains who worked on which functions.

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[Daniel Paradis \(Statistician\)](#)

[Function Assignments](#)

[Glossary](#)

[Helen Hermann \(University Student\)](#)

[Interview](#)

[Iteration 1](#)

[Jason Morin \(Highschool Student\)](#)

[Jeremy Ladovka \(Accountant\)](#)

[John Smith \(Data Analyst\)](#)

[Mingming Liu \(Project Manager\)](#)

[Mohammad Memarbashi \(Civil Engineer\)](#)

[Personas](#)

[Roles](#)

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Interview Process

- ▶ Funnel Strategy
 - ▶ General questions leading into more specific questions related to the calculator.

Interview Process

- ▶ Funnel Strategy
 - ▶ General questions leading into more specific questions related to the calculator.
- ▶ Semi-structured & Linear Progression
 - ▶ Asked some follow-up sub-questions based on the response to get more information
 - ▶ General questions to increasingly more specific questions (Funnel Strategy)

Interview Process

- ▶ Funnel Strategy
 - ▶ General questions leading into more specific questions related to the calculator.
- ▶ Semi-structured & Linear Progression
 - ▶ Asked some follow-up sub-questions based on the response to get more information
 - ▶ General questions to increasingly more specific questions (Funnel Strategy)
- ▶ 5 questions per team member
 - ▶ 10 General questions
 - ▶ 25 Specific questions

Choosing Interviewees

- ▶ Aimed for a variety of interviewees based on whom we thought would be interested in using a calculator

Choosing Interviewees

- ▶ Aimed for a variety of interviewees based on whom we thought would be interested in using a calculator
- ▶ Total of 7 interviewees, one interview conducted by each team member

Main takeaways

- ▶ Customizability

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- ▶ Preference of formal notation
i.e. x^y vs $x^{\wedge}y$

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- ▶ Customizability
- ▶ Preference of formal notation
i.e. x^y vs x^y
- ▶ Existence of few popular online calculators/ tools
with advanced features
i.e. *WolframAlpha*, *Symbolab*, *Desmos*

Example of a great idea from the interviews

Which functions that are generally not on a calculator, would you like to see added?

Example of a great idea from the interviews

Which functions that are generally not on a calculator, would you like to see added?

“This is very difficult, maybe some constants could be added, like the gravity constant or the speed of light for our fellow engineers.”

Initial Personas

People ranging from different backgrounds who might contribute to different types of use cases:

1. Students
2. Statisticians
3. Data Analysts
4. Businessmen
5. Accountants
6. Engineers
7. Professors

Actual Target Personas

1. High-school Student
2. University Student
3. Statistician
4. Data Analyst
5. Accountant
6. Engineer (Program Manager)
7. Civil Engineer

Personas Overview

Using the interview responses:

Personas Overview

Using the interview responses:

- ▶ Wrote up a basic bio to make it more “real”

Personas Overview

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- ▶ Came up with positive and negative personas

Personas Overview

Using the interview responses:

- ▶ Wrote up a basic bio to make it more “real”
- ▶ Came up with positive and negative personas
- ▶ Built a table with important information

High-school Student

Name	Jason Morin
Gender and Age	Male, 15
Disabilities and restrictions	None
Education	Current high-school student
Profession	Student
Hobbies	Building (customizing) computers, video games, watching Netflix
Location of use	Home
Computer literacy	Very comfortable using computers, and a fast learner for new programs/ tools but not a power user.
Computer environment	<i>Google Chrome 91.0.4472.77 on Windows 10</i>
Internet literacy	High, self-taught and fast learner

Accountant

Name	Jeremy Ladovka
Gender and Age	Male, 38
Disabilities and restrictions	None
Education	Masters, Accountancy
Profession	Accountant
Hobbies	Math, soccer, watching movies, playing video games, going out with friends
Location of use	Office/Home(COVID-19)
Computer literacy	Very strong computer skills Uses computers on a daily basis to perform both work related tasks and personal hobbies.
Computer environment	<i>Google Chrome 91.0.4472.77</i> <i>Safari v14.1, Mac OS</i>
Internet literacy	High, communicates via Internet daily

Use Cases

High Level	Low Level
Validate Calculations Of other Software Solve School Assignments Analyze Sale Statistics Estimate Cost Of Engineering Projects Calculate Shopping Expenditures Help During Exams Analyze Biology Lab Results Graph Mathematical Functions Analyze Large Data Sets Design Building Architecture	Input Data Set Input Number Input Function Input Operator Graph Function Calculate Result Display Result. Clear Result. Modify Result

Prototype

ETERNITY CALCULATOR

			9*2
AC	$\arccos(x)$	$\sinh(x)$	$\log_b(x)$
MAD	$\sigma(x)$	ab^x	x^y
7	8	9	\div
4	5	6	\times
1	2	3	$-$
\cdot	0	$=$	$+$

Thank you!