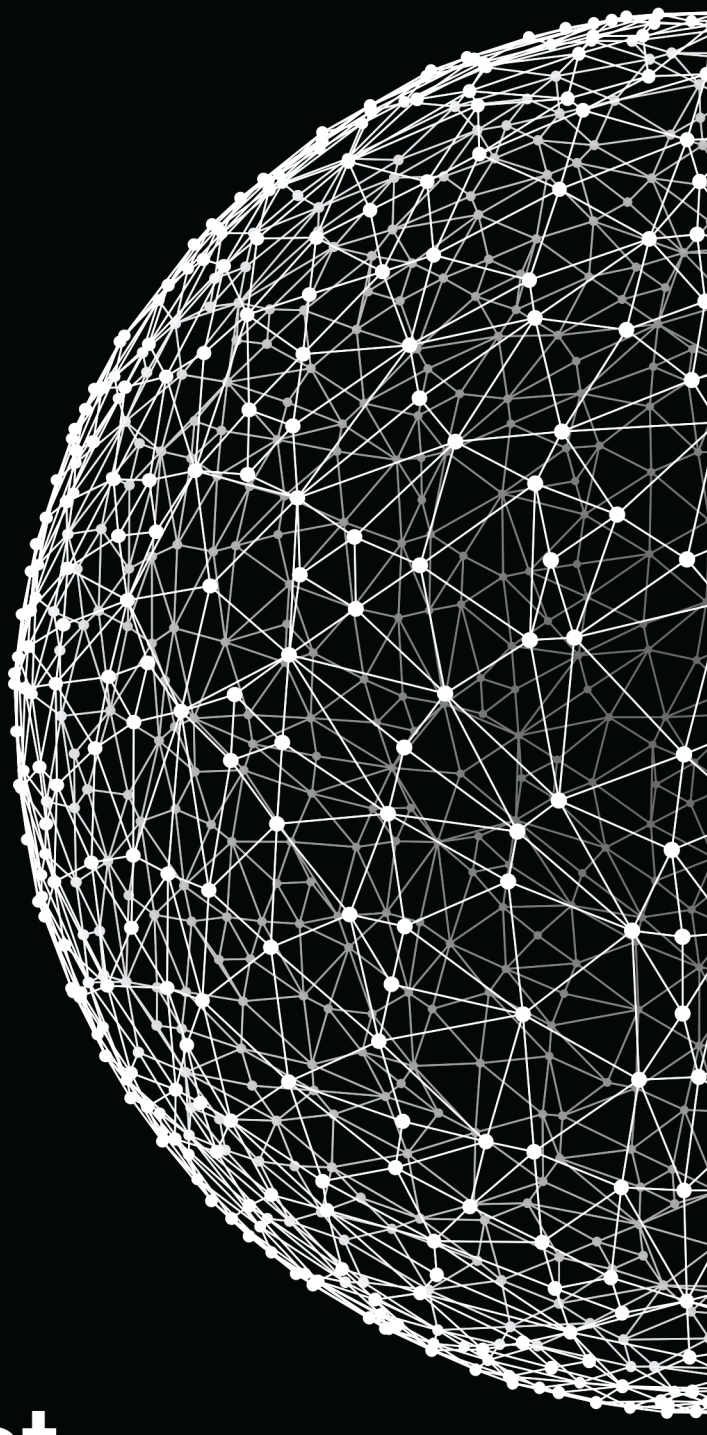
Endgame

Marathon C

September 3, 2020



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Contents

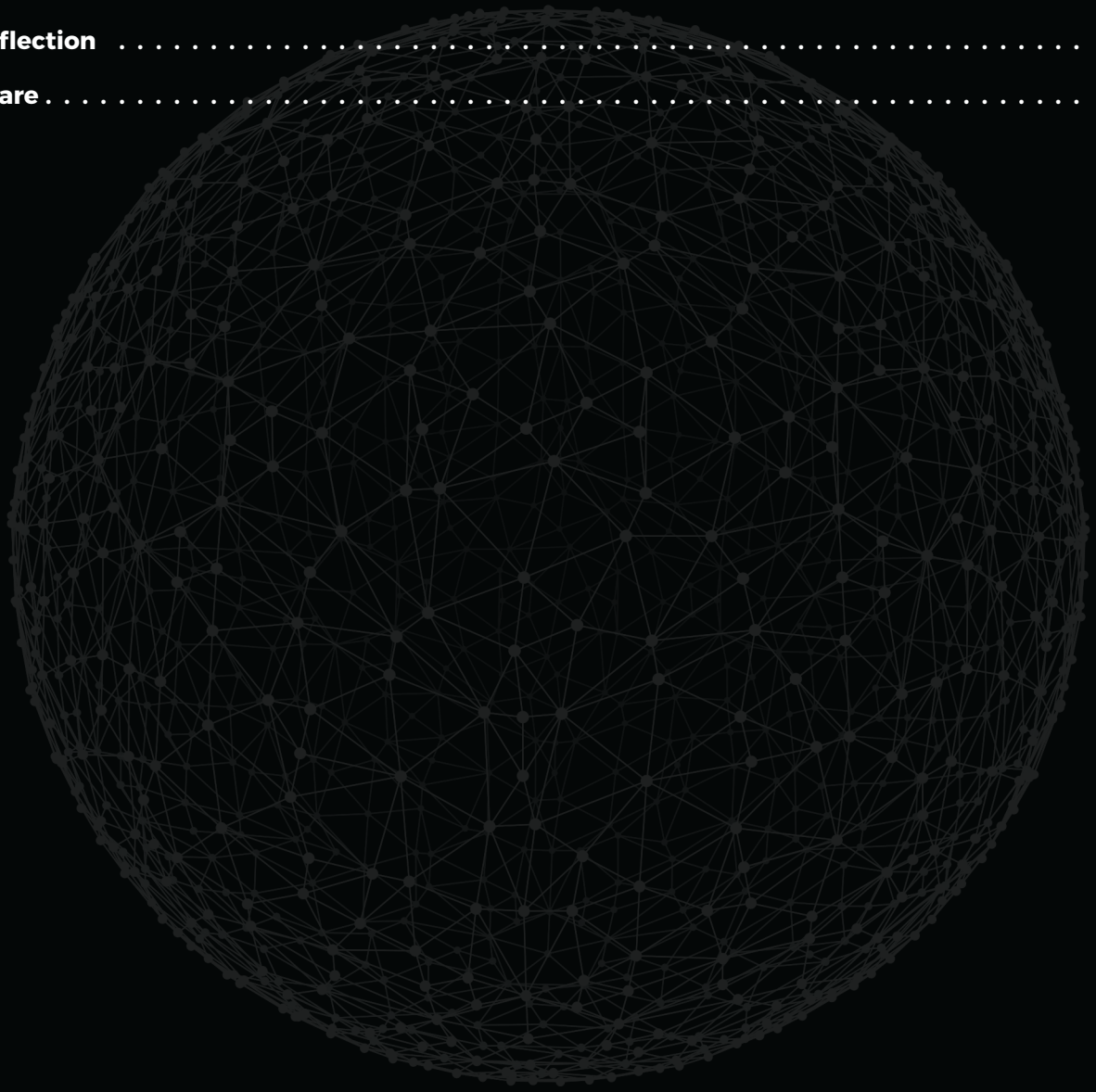
Engage 2

Investigate 3

Act 5

Reflection 7

Share 8



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Engage

DESCRIPTION

We have come to the most important part of ucode connect educational system: learning to create solutions for real-world problems and develop your own product.

While working on this challenge, you will pass the whole cycle of the Challenge Based Learning framework. It which will teach you how to approach the solution to any problem correctly. Having created your own product, you will receive extremely important skills that will make you a better programmer. You will receive experience that will help you in the future to comprehensively address the solution to any problems.

We suggest that you go through all the steps and instructions that you will have below. Do not limit yourself to questions and activities written in this story. Use every opportunity to make your product perfect.

Consult with the whole team during each stage of work on the product. Ask other students questions. Try to get more information that can help you to make a really cool product. Do not forget to document important information in order to not lose it.

BIG IDEA

Building solutions.

ESSENTIAL QUESTION

How to create a product using the knowledge given during the Marathon?

CHALLENGE

Video games are one of the most popular ways to spend free time. People play at home, at work, at night, on weekends, anytime and anywhere. Video games provide a way to escape ordinary life and embark on amazing adventures without as much as leaving your house.

It's a win-win situation: players get entertainment, and video game companies get profits.

Find answers to these questions and build your own game using C.

Investigate

GUIDING QUESTIONS

So, it's time to move forward, but you should explore your challenge entirely before. Meet with your team and discuss ways to achieve your common goal in convenient surroundings. Teamwork involves a set of interdependent activities performed by individuals who collaborate toward a common goal. Think about the result and reasons for developing the app. To help you deeper explore the challenge here are some helpful questions. Try to answer them together.

- What is a game?
- Why do people like to play games?
- What makes a game fun or boring?
- What genres of games are there?
- What kind of game features do people like?
- What is a complete product?
- What is a product-oriented mindset?
- What needs to be done first when creating a solution?
- What stages do game developers go through when working on their own product?
- What experience do developers receive from this process?
- What do you need to present a product?
- How to collect information from users about what they expect from a product?

GUIDING ACTIVITIES

The goal of this stage is to get the team to the point where it is ready to start designing a specific solution. Below you will find a list of consecutive activities to help you with this. Of course, you have to go through every stage of the challenge (including this one) with the whole team.

You already have experience working in a team. Now, it is time to reflect on the past. What collaborative tools have you used so far? Speak with your teammates about everyone's experience that can be helpful during this challenge. During this stage, remember, that the goal of every challenge is to develop a solution that is meaningful to your community and is sustainable.
Let's start.

- Discuss the terms of the challenge together: game, solution, product, etc.
- Talk with community members on a variety of topics and find out what they like about computer games.
- Discuss with your team what kind of games you like.
- Play some old school arcade computer games (exclusively for educational purposes).
- Create a list of ideas for your product.
- Collect feedback on your list of ideas and select the best one.

ANALYSIS

Analyze your findings. What conclusions have you made after completing guiding questions and activities? In addition to your thoughts and conclusions, here are some more analysis results.

- Discuss with your team the plan for implementing the chosen idea.
- Research the tools and technologies that will help you realize your solution. `ncurses or other graphic libraries` will help you make user-friendly interaction with the game.
  Note: Do not forget to submit all the required files necessary for the successful launch of the game. You can check if you are doing right by building your project on another student's iMac.
- Discuss your game design. Create the logic of how the user should use your product. In other words, brainstorm with your team and write down a detailed script of how the user will use your game. Add interactivity to the game. Do not stop on tic-tac-toe. Turn on your imagination!
- Think about the mechanics of your game. Think about your game features. Be sure to note that the user feels involved in the game.
- Start with something simple in your game. Develop it. Do not forget that the user interface should be easy to use.
- Constantly contribute to your product, improve your product. Add some features such as a scoreboard, levels, audio, pause, multiplayer, etc.
- Get together with your team and test your product. Let your friends use it. Collect feedback.
- Based on collected feedback, discuss with your team how you can improve your product.

Example resources

- Top 10 highest-grossing arcade games of all time
- Comprehensive oldschool instruction for ncurses
- How to decide what product to build
- Google. Just Google. It helps sometimes
- The only thing you need to make a sick product - music

Act

DIRECTORY

`./`

SUBMIT

`Makefile, inc/*.[h], src/*.[c], resource/(graphic_library, maps, game configs, etc.)`

ALLOWED FUNCTIONS

Any functions whose use is justified (especially from standard library and graphics library)

BINARY

endgame

EVALUATION

What you need for assessment

- Solution on your git repository
- Presentation of your product

Presentation is an important stage in the process of product creation.
You must be ready to defend your solution in front of an audience.
First impressions are critical.
Proper preparation is vital to presenting your product in the best light possible.

The objective of the product presentation can be different depending upon the target audience. Adjust the presentation accordingly. It is important to know your audience and why they are interested to hear your presentation.

You will need to create a presentation that you will use during the defense to other students. The presentation can be in any form convenient for you.

Example presentation tools

- Google Slides
- Keynote
- Prezi
- Youtube or any other video-sharing service

In your presentation you should tell about the experience of working on the product. From the moment you put together the team, up to, in fact, the stage of creating a solution and preparing for the presentation. You must present your product as if you want to sell it to investors who are interested in making a huge investment in the development of your product.

The product is one of the most important keywords here. Place a small piece demonstrating what you've done in your presentation. This way, the audience will see not only your brilliant presentation skills, but also some proof of your hard work.

The optimal time of the entire presentation is 7-10 minutes. It is enough to make the audience interested in your product, show all the necessary features, and not to overload them.

Discuss with the team how you will present your solution. It is very important to prepare for a good presentation. So decide how you will divide the presentation content among all of your team members.

A bunch of advices

- Make a quick introduction of your product. Tell about your team, idea of your solution, why you chose it.
- Tell how you identified the solution. What kind of feedback have you obtained about selected the product topic? What were the expectations of the users? How did you take user feedback into account?
- It will be interesting if you tell how you worked on the solution. What influenced you while working on the creation of the product. What purpose did you follow?
- Tell what techniques and algorithms did you use? How did you use it? Why such a choice? What difficulties did you encounter during its development?
- Don't forget to show your product in action. Record the screen of how you play your game. Make it look like a trailer of your game. To pay attention to the most essential moments of your solution, capture the screen and use it in your presentation. Remember that you are limited in time.
- Describe how you see the further development of the product. What you did not have time to implement? How would you like to improve your solution? How would you develop your product if you received investment in it?
- Try to save time for Q/A from the audience.

Example resources to prepare for the presentation

- How to create an awesome product presentation
- How to prepare and give a speech
- How to mentally prepare for a speech
- 7 Amazing sales presentation examples (and how to make them your own)
- 8 secrets of successful presentation (with examples)

Reflection

The next stage of your work is reflection. During the reflection, you are doing a retrospective of all work on the product. This allows you to understand the experience gained, consolidate your knowledge, and understand how to overcome the difficulties in the future.
Do not delay, gather the next day after the presentation, and discuss your experience and what you have learned while working on the product. Make a brainstorm and reflection on the results of this challenge. Take note of the topics discussed.

Example of topics

- Discuss all stages of your product. From team building to product presentation.
- Discuss your teamwork, interaction in the team. What were the issues of your teamwork? How can they be solved? What did you like the most in your team organization process? Did you use any approach to team management and software development?
- Discuss the competencies of each team member. Discuss positive and negative points. What expertise did you improve? Be open and truthful. This will help all of you to become better in the future.
- Discuss the technical implementation of your solution. What mistakes did you make while developing your product? How can you avoid them in the future? What new knowledge have you gained while working with selected technologies? What will you use again upon development?
- Discuss testing and user feedback. What kind of improvements would you make? What mistakes were made in the process? What is worth paying more attention to? What was the most attractive fo users? How could you do it much better?
- Discuss the preparation for the presentation. What did you not pay attention to? What will you take into account in the future? What part of the preparation took a lot of time?
- Discuss the presentation of your product. What you have not considered? What were your advantages? What could help you get your presentation better?
- Discuss how you can share your experience with the world. It will consolidate your knowledge and experience, so take it seriously.

Share

PUBLISHING

Last but not least, the final stage of your work is to publish it. This allows you to share your challenges, solutions, and reflections with local and global audiences. During this stage, you will discover ways of getting external evaluation and feedback on your work. As a result, you will get the most out of the challenge, and get a better understanding of both your achievements and missteps.

To share your work, you can create:

- a text post, as a summary of your reflection
- charts, infographics or other ways to visualize your information
- a video, either of your work, or a reflection video
- an audio podcast. Record a story about your experience
- a photo report with a small post

Some activities that can help you in the publishing process:

1. Prepare yourself a cup of something warm. We recommend some hibiscus tea, known as carcadè.
2. Get into a comfortable armchair. Turn on your favorite music. We were listening to twenty one pilots while working on this challenge.
3. Just start writing and don't stop. At first you will resist it, but then you'll like it. Just stay calm. We all went through it.
4. Use your presentation as the backbone of the publication you're writing. It can help.
5. Describe the key ideas of your product. What prompted you to focus on them for your solution?
6. Share your team work experience. How did you communicate with the team? Did you have any meetings?
7. Describe the technology stack you used. Why?
8. Analyse what you have actually accomplished. Was there something you planned to do, but didn't manage, or ran out of time?
9. Explain how you would improve your product? What is your hypothesis about the professional development of your product?
10. Now relax. Lean back and take a deep breath.
11. Analyze what you went through, what experience you have gained. What conclusions did you make from this challenge?
12. Are you ready to continue?

Helpful tools:

- Canva - a good way to visualize your data
- QuickTime - an easy way to capture your screen, record video or audio

Examples of ways to share your experience:

- Facebook - create and share a post that will inspire your friends
- YouTube - upload an exciting video
- GitHub - share and describe your solution
- Telegraph - create a post that you can easily share on Telegram
- Instagram - share photos and stories from ucode. Don't forget to tag us :)

Share what you've learned and accomplished with your local community and the world. Use #ucode and #CBLWorld on social media.