External Documentation

COMP7084001 - Multimedia Systems - LC01

Even Semester Year 2021/2022

1. Group Member

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2. Project Title

CodeActiO(n)

3. Introduction

CodeActiO(n) is a web-based application that supports Algorithm Design and Analysis course, especially for the topic about time complexity and its type (Constant Time, Linear Time, Logarithmic Time, Quadratic Time, Exponential Time, and Factorial Time). CodeActiO(n) is created using HTML, CSS, and JavaScript language. This web-based application consists of 3 pages, Home page, Tutorials page, and About Us page. CodeActiO(n) delivers the explanation about time complexity in video and article. This application also shows code snippets in C++ language as an example. This application also shows our partners and testimonies from our subscribers that were displayed in the carousel. Users could play the background music of Mario Bros Theme Song in the Home page by clicking play button and pause it by clicking pause button. If users click the Tutorial Video in Tutorials page, it will link to the YouTube Video that explains the topic.

4. Report and Documentation

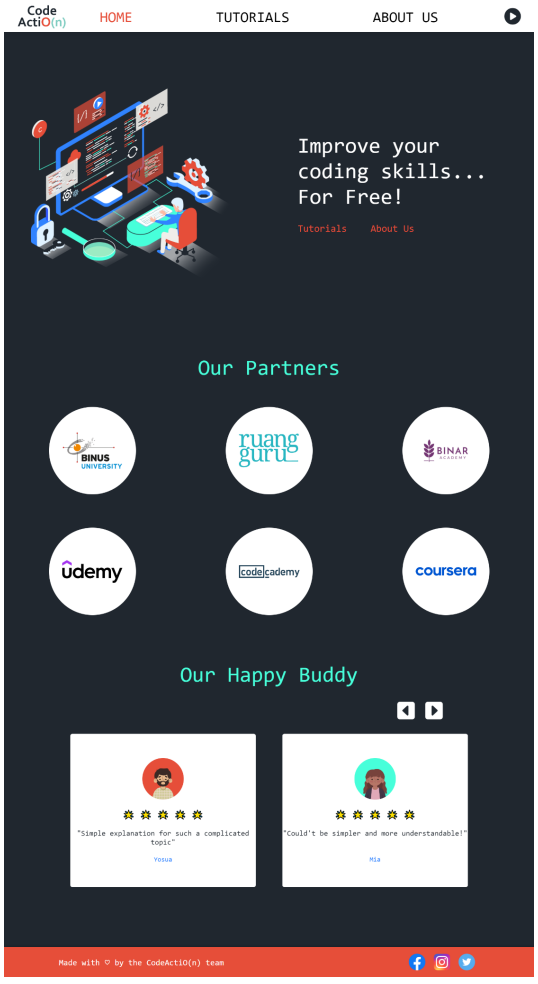
a. Home

As a landing page, this page is divided up into 3 parts: header, body, and footer.

- On the header, users will see CodeActio(n)'s logo and buttons that will direct users to the home page, tutorials page, and about us page. The page where users are currently

at is highlighted in red color. On the right side of the header, users will also be able to play and pause background music of Mario Bros Theme Song.

- The second part is the body. On the body, it's also divided into 3 parts, which are introduction, partners, and testimonials. Introduction shows an image of a person coding and on the right side shows the links to the tutorials and about us pages. Below that, it shows CodeActio(n)'s partners: BINUS University, Ruang Guru, Binar Academy, Udemy, Codecademy, and Coursera. And the last part of the body is testimonials. It shows the subscribers that have tried our tutorials and gave their feedback on it. The testimonials were displayed in a carousel. Users can click the left arrow and right arrow to swipe and see other testimony. However, the carousel will automatically be swiped.
- At the bottom is the footer. Here, it shows "Made with ♡ by the CodeActio(n) team" and links to our social media.



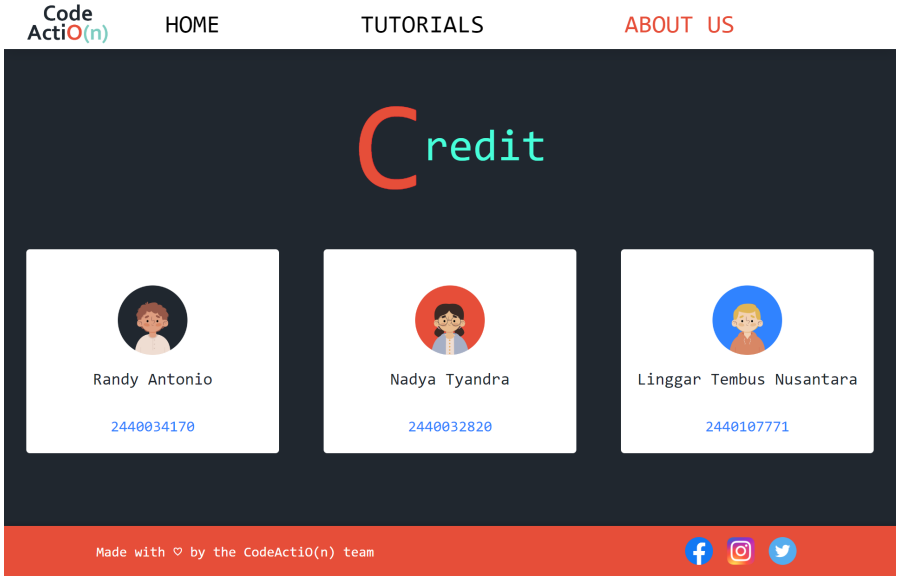
b. Tutorials

In this page, there are 2 main parts: video and explanation & example.

- On the video part, it will show the title (“Video”) of the subpage and below it is an embed youtube link that is wrapped in a box, showing a title of the video. The video is posted on youtube and can be controlled as a normal youtube video could.
- Below that is the explanation and example part. Here, it shows the different types of time complexity, which is a part of the Algorithm and Design course. Here, the complexities are divided into 6 different time complexities, which are constant time, linear time, logarithmic time, quadratic time, exponential time, and factorial time. Every time complexity comes with an explanation and a code snippet showing a code example of that time complexity, written in C++ language.

c. About Us

On this About Us page, it shows the credit of the creator of this website, boxed in their separate boxes, titled “Credit”.



5. Hidden creativities

- **Navigation bar**

Every menu has some states. This is the text color when the menu is in normal state (not hovered and not opened).

HOME

This is the text color when the menu is hovered.

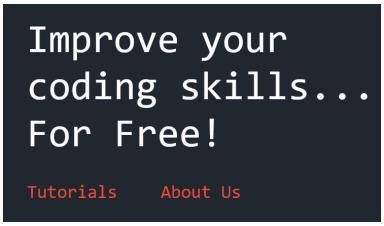
HOME

This is the text color when the menu is opened.

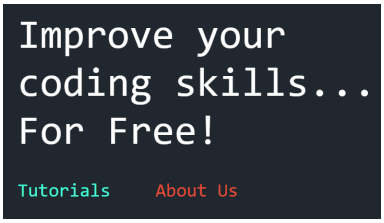
HOME

- **Introduction part**

The “Tutorials” and “About Us” button in the introduction part has some states. This is the text color when the button is in normal state (not hovered and not opened).



This is the text color when the “Tutorials” button is hovered.



- **Play and pause button**

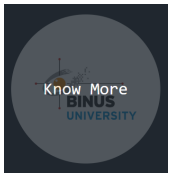
  In the Home page, users can play the background music of Mario Bros Theme Song by clicking the play button. When the button is hovered, it will show a slightly lowered opacity (dimmer).

Users can pause the background music by clicking the pause button.

- **Partners button**

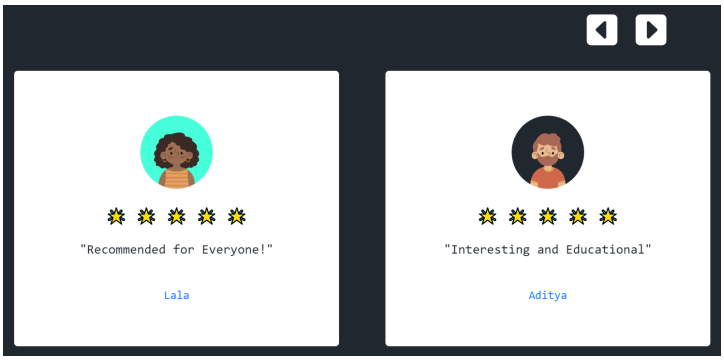
  Each partner button has states. This is their logo when in normal state (not hovered).

This is their logo when hovered, the logo becomes darker and “Know More” text occurs. If the user clicks the logo, the new tab of the partner’s official website is opened.



- **Testimony carousel**

  Users could click the left arrow to swipe to the left card and click the right arrow to swipe to the right card. However, the carousel will automatically be swiped.

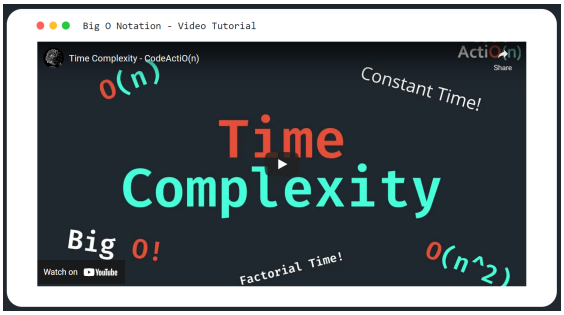


- **Social media button**

  If users click the social media button, it will open the new tab of social media's official website.

- **Video Tutorial**

  If users click the video tutorial, the application will play a video from YouTube about time complexity.



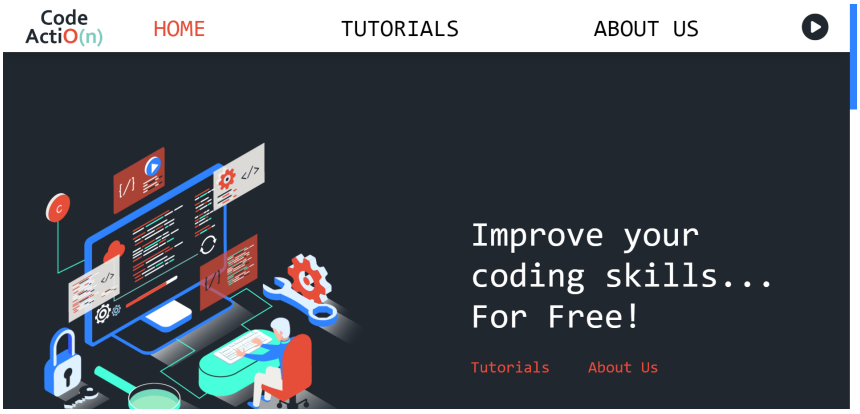
- **Logo**

  If users click CodeActiO(n)'s logo in each page, the application will link to the Home page.

Code
ActiO(n)

- **Scroll bar**

  The scroll bar is custom made in blue and white.



6. Reference

a. Text

- Typeface: Consolas
- Size: 16 px, 18px, 20px, 22 px, 24 px, 30 px, 36 px, 40 px, 48 px, 52 px, 60 px, 64 px, 184 px, 200 px
- Font:
  - ❖ Consolas 16 px regular
  - ❖ Consolas 18 px regular
  - ❖ Consolas 20 px regular
  - ❖ Consolas 22 px regular
  - ❖ Consolas 24 px regular
  - ❖ Consolas 30 px regular
  - ❖ Consolas 36 px regular
  - ❖ Consolas 40 px regular
  - ❖ Consolas 48 px regular
  - ❖ Consolas 52 px regular
  - ❖ Consolas 60 px regular
  - ❖ Consolas 64 px regular
  - ❖ Consolas 184 px regular
  - ❖ Consolas 200 px regular

b. Color

- Black: #20272F
- Red: #E64E39
- Tosca: #47FFDA
- White: #FFFFFF
- Blue: #3083FF
- Sunset Orange: #FF605C
- Pastel Orange: #FFBD44
- Malachite: #00CA4E

c. Content

- Introduction, Constant time, Linear time, and Quadratic time: https://www.mygreatlearning.com/blog/why-is-time-complexity-essential/#:~:text=Time%20complexity%20is%20the%20amount,you%20understand%20time%20complexity%20clearly
- Logarithmic time: https://learn2torials.com/a/logarithmic-time-complexity
- Exponential time: https://towardsdatascience.com/essential-programming-time-complexity-a95bb2608cac#:~:text=Exponential%20Time%20Complexity%3A%20O
- Exponential time example (recursive Fibonacci): https://www.geeksforgeeks.org/program-for-nth-fibonacci-number/
- Factorial time: https://adrianmejia.com/most-popular-algorithms-time-complexity-every-programmer-should-know-free-online-tutorial-course/#All-running-complexities-graphs

d. Image

- Binar Academy logo: https://www.binaracademy.com/
- Ruangguru logo: https://www.ruangguru.com/
- Binus logo: http://binus.ac.id/
- Udemy logo: https://www.udemy.com/

- Coursera logo: https://www.coursera.org/
- Codecademy logo: https://www.codecademy.com/
- Twitter logo: http://www.twitter.com/
- Instagram logo: http://www.instagram.com/
- Facebook logo: http://www.facebook.com/
- Code snippet image maker (Seti theme and C++ language): https://carbon.now.sh/
- Isometric programming image at homepage: https://www.freepik.com/free-vector/isometric-programming-landing-page-template_5071151.htm#query=coding%20isometric&position=3&from_view=search

e. Illustration

Testimony and About Us profile icon: https://www.freepik.com/free-vector/hand-drawn-different-profile-icons-pack_17863145.htm

f. Video

Tutorial Video: https://youtu.be/fPAmZSGkPAQ

g. Audio

Super Mario Bros Theme Song: https://play.nintendo.com/printables/uncategorized/exclusive-download-super-mario-bros-song/