

174142H

IN 4600

17/02/2022

01

Q1) In this criteria, we need to consider what the type of solution will be the best with multimedia system. Basically identify what are the challenges, operability and how to handle the online event.

~~Sound~~ Audio - In the online event we need to present a speech for others. So, we need to audio multimedia component for it.

Video - In this online event, we decided to present the same presentation. Some presentation had more video. And also, we want to play the introduction video. So, we want to use video multimedia component.

Images - we want to enter the student for that event by ~~for~~ scanning the student id card. So, we need to use, Images

text - All the presentations have more text. And all so, ~~landing~~ we when we ~~to~~ join in this event, ~~we~~ first shows the landing image. In this image has text about this online event.

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02

- (1) Animation - In this event we want to show the animated function clip about this event.

In this online event includes following function.

- For this online event, there are 200 selected student can be participated.
- We develop a web site for this event. In this web site has details about the previous events and speakers. And also it includes the articles, and comments about the previous event.
- First we want to log in the system by showing using student id card.
- In this app can track the student Id card and check that student have has a permission to log in to the System.
- If the student has a permission, the web site ^{other other} redirect the page. In this page, the student shows the event link and also all the presentations.
- In this event has more presentations, Animated clip event, Intro videos, and shows the many posts.

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(1)- In this event has ~~ha~~ a youtube channel. So, all the video upload to that youtube channel. When the presentation continue, the presenter play the video by using the youtube.

- we use Primeir pro to create create the video clip, and audio clip. It is easy to create a video. And also it is free for us.
- And also, we need unity to develop the web application. Unity can easily track the id card than other software.
- And also we use photo shop to create, post for this event. It is easy to create a post and it is free for us.

* We want to,
some computers,
web page hosting servers.

* we can use the compression technique for the university ID card saving. And also, video audio storing.

And also, we use the Image tracking algorithm to track the university ID card.

So we can improve the performance of the system by using this algorithm

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Q1) we use the operating system for this event.

In our personal computer we use windows, mac or Linux operating system.

In our Server Operation System use the .unix operating system.

And also we user real time operating system for the online meeting platform.

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Q4) a)

without compressed following text,

THIS OPPORTUNITY COMES ONCE IN A LIFETIME

This text has 35 characters.

So, without compressing text size

= 35 Bytes.

using runlength algorithm,

T1 H1 I1 S1 O1 P2 O1 R1 T1 u1 N1 E1 F1 Y1 C1 O1 M1 E1 S1 O1 N1 C1
E1 I1 N1 A1 L1 I1 F1 E1 T1 M1 E1

Q8 After compression the text size
68 bytes

the difference between normal text size and the
after run compressing,

68 bytes - 35 bytes
= 33 bytes

In this calculation after the compressing using Runlength
Algorithm, the string size was increased by 33 bytes.

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Q4) b) using the run length code;

In run length code goes the line by line and white space calculate, Black space calculate separately. After calculation that gives about out put in one line.

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(Q2) Buffering.

like application

The you tube has many servers in the world all around the ~~world~~ ^{Sri Lanka} and it has main server in one place. When we let assume the rule place we want to connect with rule place server. But rule place has poor internet connection. To direct connection with that server. So, we ^{should} develop algorithm to connect automatically to the next nearest edge server and provide the server without any buffering.

live streaming.

When we give live stream for the rural area, In our application should have the algorithm to automatically reduce the video quality when the connection is very poor. So, we want to identified the connection strength and according that speed we want to manage video quality. (480P, 240P, 144P)

Server architecture.

We want to design the server architecture like the tree structure. We want to ~~add~~ install many servers around that rural area and it connect to main sub main server.. and also.

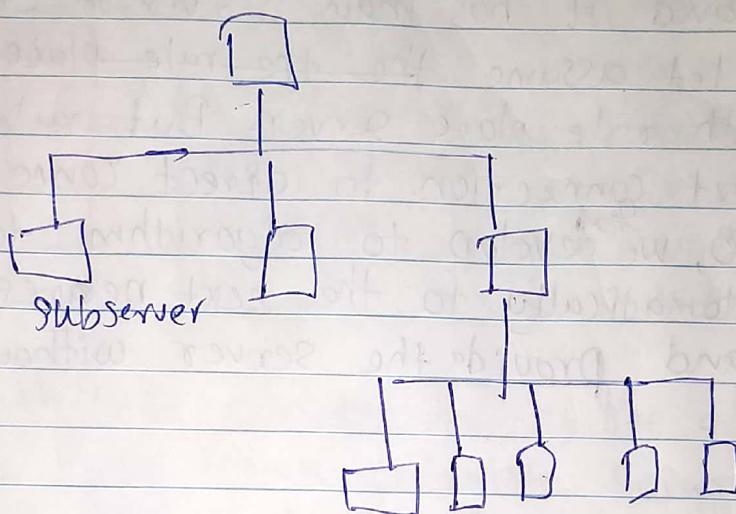
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- Q2) We want to design we want to install few Sub Server and all sub servers connect with the main server.



Meta data generation and usage.

In rural area there are poor ~~come~~ internet connection. So, we need to remove the unnecessary meta data from the video, live stream images like that. ~~comp~~ component. And also we want to implement the algorithm to use the wanted meta data and ignore the unnecessary meta data.

If this is use we can manage our data very low. So, we can give the good performance.

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(P2) MM DB management.

In this area has poor internet connection. So, we not to use less amount of API call for the data base. By form one API call get all nessary data from the backend.. We can store the nessary data to our application without using database call. So we can manage data base very less purposes.

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(Q3)

first step.

N O T H T N G I S I M P O S S I B L E

N O T H I G S M P B L E
2 2 1 1 4 1 3 1 1 7 1 1

Second step.

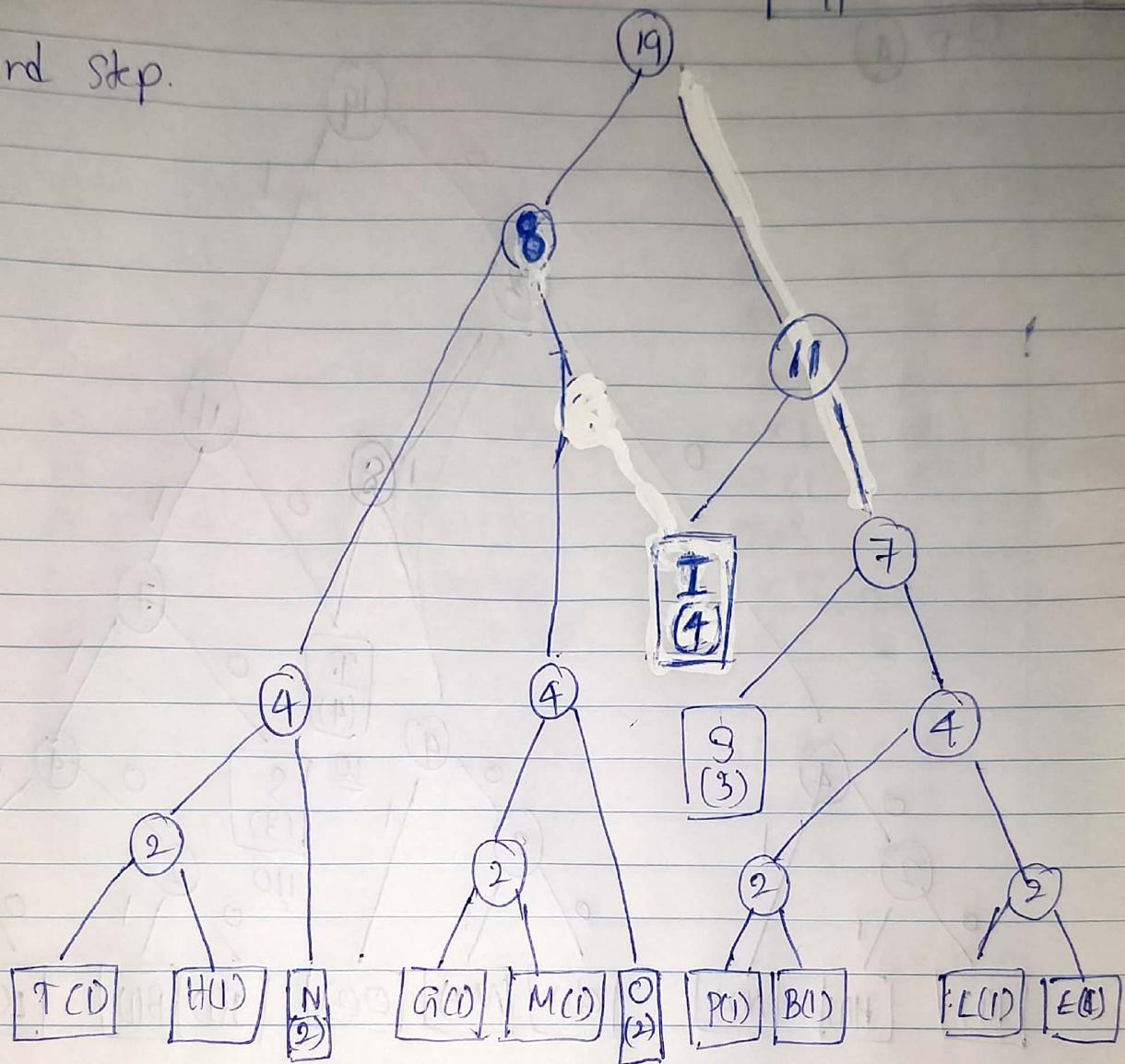
T H A M P B L E N O S I
1 1 1 1 1 1 1 2 2 3 4

Q3)

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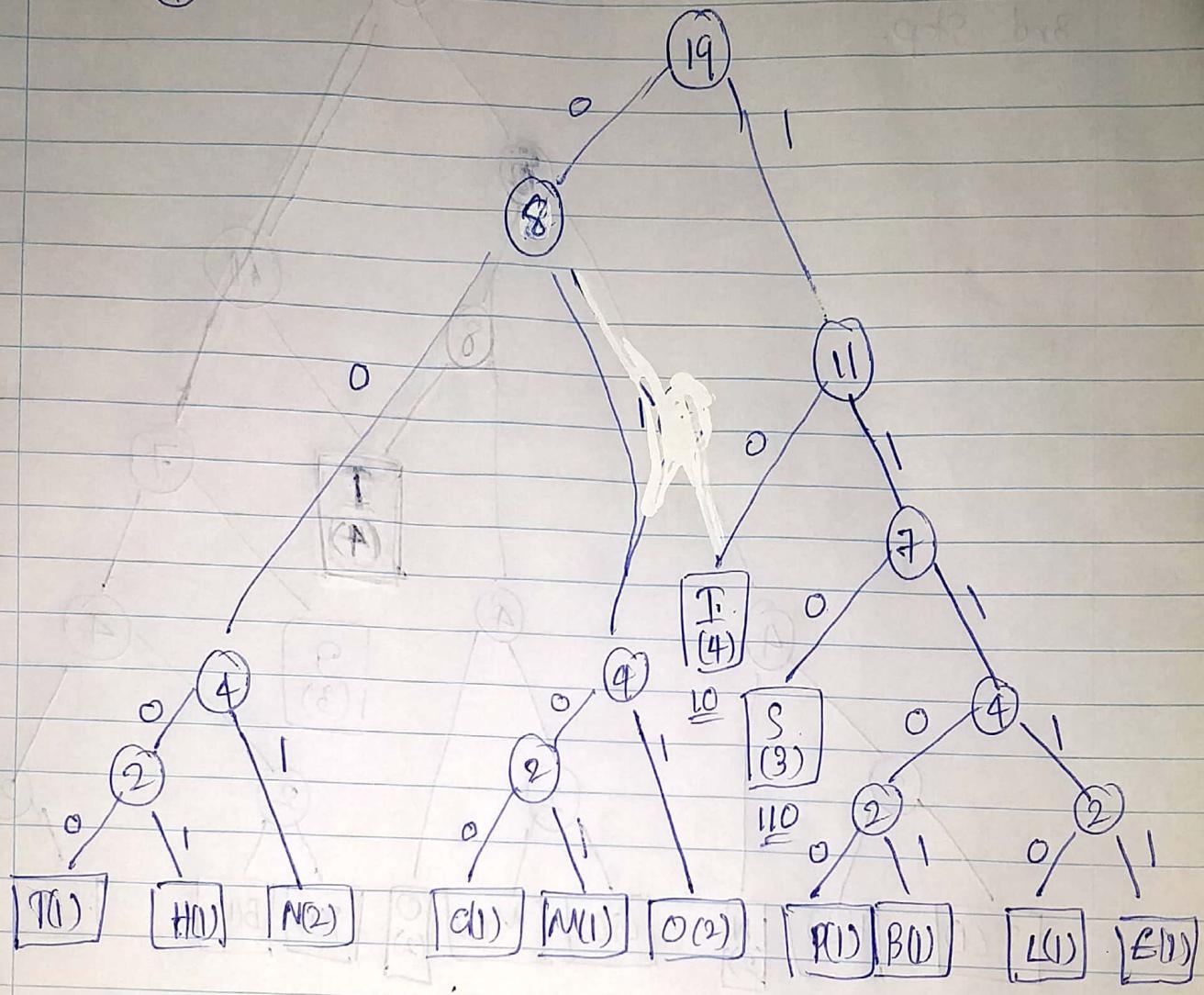
11

3rd step.



(P3)

Step (4)

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13

(Q3)

Step 5

Character	Frequency	Code	Size
T	1	0000	$4 \times 1 = 4$
H	1	0001	$4 \times 1 = 4$
N	2	001	$2 \times 3 = 6$
G	1	0100	$4 \times 1 = 4$
M	1	0101	$4 \times 1 = 4$
O	2	011	$2 \times 3 = 6$
P	1	11100	$1 \times 5 = 5$
B	1	11101	$1 \times 5 = 5$
L	1	11110	$1 \times 5 = 5$
E	1	11111	$1 \times 5 = 5$
I	4	10	$4 \times 2 = 8$
S	3	110	$2 \times 3 = 6$

$$12 \times 8 = 96 \text{ bits} \quad 19 \text{ bits} \quad 65 \text{ bits}$$

$$\begin{aligned} & \text{before} \\ & \text{Total size after Compressed} = 19 \times 8 \\ & = 152 \text{ bits.} \end{aligned}$$

$$\begin{aligned} \text{After compressed} &= 96 \text{ bits} + 19 \text{ bits} + 65 \text{ bits} \\ &= 180 \text{ bits.} \end{aligned}$$

$$\begin{aligned} \text{different} &= 180 \text{ bits} - 152 \text{ bits} \\ &= 28 \text{ bits.} \end{aligned}$$

In this compression using Huffman coding algorithm the string size was increased by 28 bits.