

Question 1

Primary storage.

Primary storage is the main memory of any system. There are four different types of primary storage:

- **Random-Access Memory (RAM)** is the only memory that has direct access to the Central Process Unit (CPU). It is extremely high-speed memory and the only downside is that RAM is volatile - which means every time the system shuts down, information is lost. In our days the recommended size of RAM is 4-8Gb or higher.
- **Read only Memory (ROM)** is non-volatile memory. It contains basic instructions needed to boot system after shut down. Its size is around 4-8Mb.
- **Cache** is volatile memory and storing data for future operational requests, so those operations perform straight away. Its size is around 8-64kb.
- **Flash memory** can be written or overwritten just like RAM, difference - flash memory is non-volatile.

Primary storage is faster than Secondary Storage.

Open Source Software.

Open Source Software (OSS) is computer software with open source code. That means that anyone has legal permission to make changes in this code to their needs. Many frameworks were created with OOS, and mostly all of them are free or at low cost.

Good example is Linux operating system. You can make your own build depending on your needs from a huge library. It is absolutely free.

Biggest benefits and disadvantages in my opinion:

Benefits:

- Affordability

- Flexibility
- Innovations

Disadvantages:

- Poor documentation and support
- No guaranteed future development

Digital Multimedia

Digital media means any media that is encoded to machine readable format.

In our days we have many types of digital media combined, creating Digital Multimedia. For example, a music video clip is combining graphics, sound and text media.

Digital Multimedia might have different file formats and might have different compression level, to reduce size of the file. The more compression made, means more downgrade made from original file quality.

For example, compression to MPEG-4 file might affect:

- Resolution
- Bitrate
- Frame rate

For example, compressed Digital Multimedia might improve web page load speed, and achieve better experience for content consumer.

Bitmap Images and Vector Graphic

Bitmap Images and Vector Graphics is a way to represent graphical modelling, and is easier explain them together.

Bitmap image consist of fixed pixels amount. The more file size is, the more pixels is in a graphical model and result is sharper graphic on our display. The most common format is **PNG** (Portable Network Graphic) and it's great for photos, because photos naturally use pixels to form image.

Downside of Bitmap Images. For example, if we want to stretch image it will gets pixelated, because when we change size of image number of pixels in it don't change. So, we need to look for better picture quality, that's mean bigger file size.

On other side we have **Vector Graphic**. It is might be scaled up or down to any resolution, without quality loss and its very light in a file size. Most common format is an **SVG** (Scalable Vector Graphics).

For example, SVG is great for web-development to represent icons or logo in a footer or any other simple graphics on a web page.

Reference:

https://www.amazon.com/Building-Your-Computer-Made-Easy/dp/1791955568/ref=zg_bs_3830_8?_encoding=UTF8&psc=1&refRID=7RFDDEAEA98A0QEFRQN5M

<https://www.amazon.com/HTMLS-CSS3-Osnovy-sovremennogo-WEB-dizayna/dp/5943877509>

www.wikipedia.org

Question 2

After my research on travel agencies websites I was surprised to find many identical sites. All of them have absolutely same colour scheme and design. You can see what I mean by checking those two sites:

- www.budgettravel.ie
- www.clubtravel.ie.

So, there is no doubt that they were created by same company or maybe even same person.

For my competitor research I choose <https://www.sunway.ie/>. I will call this site Sunway further in my research.

I found that Sunway have more unique identity than others. But at the same time, it has same disadvantages as previous two sites. To explain what I mean I will start with disadvantages.

1. You can see that all three sites which I mention here are created with a Bootstrap framework. I understand that building site from zero will take more time and it will affect overall cost of development. But when you open one site after another, they look exactly the same and you might forget where you found that good deal on your summer holiday. Fortunately, Sunway development company tried to restyle their page to avoid basic Bootstrap look alike webpage.
2. Carousel is moving too fast in my opinion. And I would like to have a control on carousel to move it back or forward.
3. Font size might be bigger in the reviews section.

At the same time, I found more advantages on this site.

1. I think this site has very nice colour scheme.
2. Design is the strongest part of this site in my opinion. Web designer made a very good job to give “holiday like” feel to a potential customer. Pictures are very good quality, and you clearly can see that Sunway target audience is families and couples.
3. Modern and clear layout.
4. Site is not overloaded with extra information and it is easy to absorb it.
5. Fonts are easy to read, text is minimalistic but effective.
6. Page load speed is good.

Main sections of Sunway are:

- Section with site navigation (nav)
- Section with active hot deals.
- Section with upcoming deals showing starting price and month of trip.
- Section with trip types like Cruise, Adventure Trip, Sightseeing and particular region trips.
- Section with reviews from previous customers.
- Section with company information, newsletters subscription or follow on social media (footer).

Conclusion:

In my opinion <https://www.sunway.ie/> might not be an ideal commercial site, but it looks presentative and gives trust to spend money here to a potential customer.

Question 3(b)

1. Title tag

index.html line 7:

```
<!-- index.html title -->
<title>Malahide Historic Buildings -
Place you want to visit</title>

<!-- contactus.html title -->
<title>Malahide Historic Buildings - Contact Us</title>

<!-- tour.html title -->
<title>Malahide Historic Buildings - Tour</title>
```

Short and descriptive title.

The title tag is one part of the page that given a lot of weight by search engine algorithms in determining what a page is about.

It is recommended to use unique titles for each page.

2. Meta tags

index.html line 8 – 12:

```
<meta name="description" content="Visit your local place
full of history.">
<meta name="keywords" content="malahide, castle, park, c
oncert, cricket, tennis, tour, tours, day off, holiday,
exhibition">
```

Meta tag is essential for search engine to get information about content on this site.

3. Navigation

index.html line 31 – 36:

```
<nav>
  <a href="index.html" class="myButton">Home</a>
  <a href="tour.html" class="myButton">Tour</a>
  <a href="contactus.html" class="myButton">Contact
Us</a>
</nav>
```

Navigation makes site user friendly. Including navigation on a site helps user to find everything he is looking for in a matter of seconds.

Create easy directory structure.

Images	✓	18/11/2020 12:05	File folder	
contacus.html	✓	18/11/2020 11:44	Microsoft Edge HT...	3 KB
index.html	✓	17/11/2020 02:56	Microsoft Edge HT...	10 KB
style.css	✓	17/11/2020 00:06	Cascading Style Sh...	2 KB
tour.html	✓	18/11/2020 11:55	Microsoft Edge HT...	5 KB

4. Proper heading tag

index.html line 44, 90:

```
<h1>Malahide Castle</h1>
<h2>Visiting Malahide Castle</h2>
```

Proper heading and subheadings. H1 tag is very important for search engines.

5. Image optimization

Index.html line 69:

```

```

Providing alternative text in case image is not loaded. Use of alt tag positively impact search engine ranking.

Good idea is to keep all images in separate folder providing a path to these images.

6. Anchor text

Tour.html line 47:

```
<a href="http://www.malahidecastleandgardens.ie/" target="_blank">More information on Malahide Castle Tour</a>
```

Anchor text informs user what information he will receive after clicking that link. Is good practice to use keywords in that text.

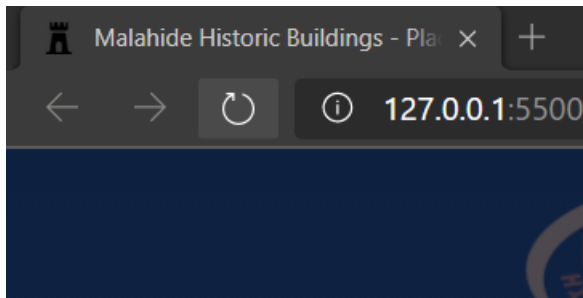
7. Favicon

Index.html line 19:

```
<link rel="shortcut icon" type="image/ico" href="Images/favicon.ico">
```

The main reason why a website should have favicon is to improve user experience. It is much easier to find the needed website by image, associated with a certain website.

In our case we have icon of castle before our title in a browser tab.



8. Improve URLs structure

Create user friendly to remember URL.

For example: <http://www.malahidehistoric.ie/tour.htm>

That way we are improving site structure and better crawling for search engines.

9. Good quality content

Providing good quality content, such as good text, clear and sharp images, easy layout etc. might interest user to the web page. Satisfied user might recommend site to his surroundings via social media or verbally.

10. Create robot.txt file

It is important to make Google crawling process to find what we have on site easy.

Example of my robot.txt allowing all web crawlers access to all content:

```
User-agent: *
```

```
Disallow:
```