

Jack 1704102

by Zhen Liu

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Project Report on HMW

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1704102

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1. Introduction of Project Plan

As the bid for the project of the House of Music Wales (HMW) has been passed and this is the time that our team should start to prepare project plans for management and start on conducting the first phase of the project. After a period of time, our team finished a rudimentary version of the project plan, shown in Figure 1. The project was supposed to be started in 18th of March, when we began to write individual documents as well as implement the first phase of the project. The deadline of the project is the 15th of May, so an appropriate arrangement for the project work and individual documents is fairly necessary.

Apart from individual documents, the project work consists of three parts – analysis, database design and implementation. Analysis part was assigned for 6 days, from 27th of March to 3rd of April. There were five sub-part containing search material, research, fact finding, risk analysis and casual map. Each of them would cost 1 day except the research would cost 2 days. Database design part comprises of 3 days, form design UI design and SQL (Structured Query Language) each for 1 day. The final implementation step lasts for 11 days, in which contains coding, component testing, unite testing and system testing. Coding will spend 8 days and the other three tasks will spend 1 day respectively.

This project plan is built in Microsoft Project, which is a professional software for project establishment and management. This software works quite well to make a plan of this project and the analysis result seems clear and accurate.

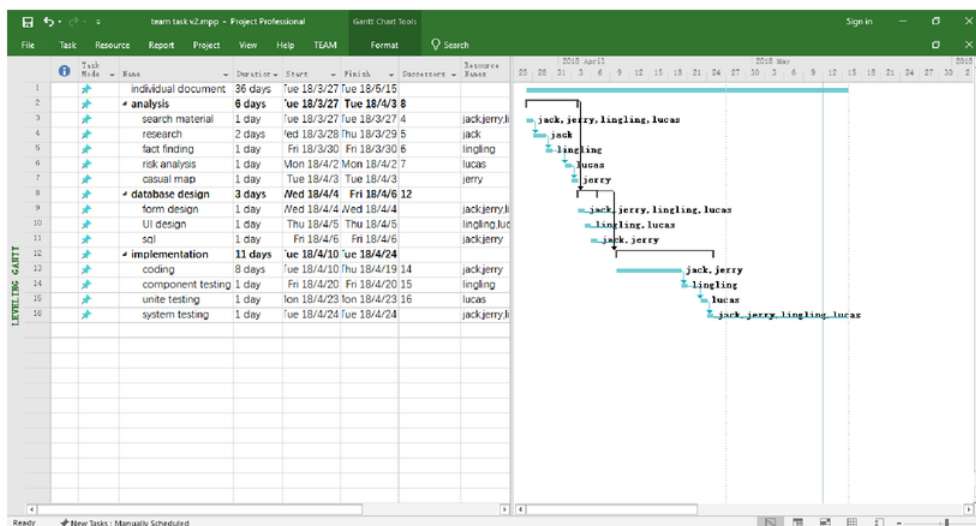
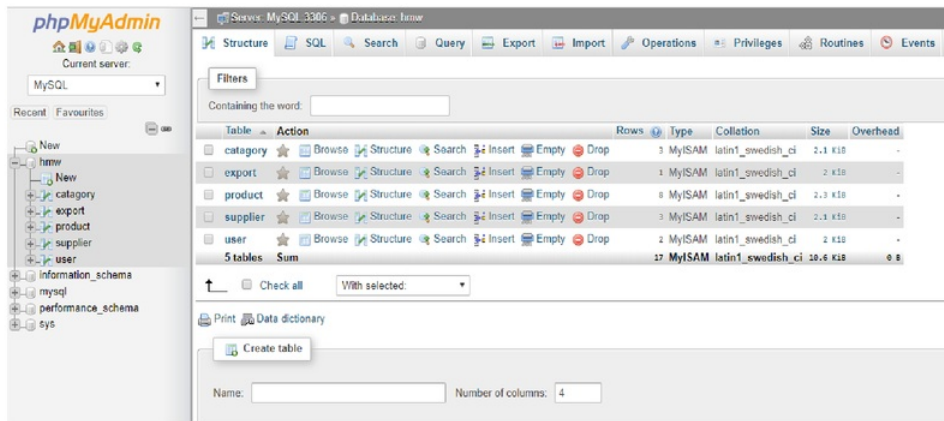


Figure 1: outline of the project plan on MS Project

A database has been setup to store the products for goods management, which is shown in Figure 2. In the hmw database, there are five tables including category, export, product, supplier and user. The category table gives information about what kinds of CD type correspond to designated numbers. The export table is related to the export function, and it contains information on export number, product ID, quantity of exported goods, origin of the export, destination of the export and the date. The product table details about the product ID, name of the product, category ID, price, inventory, supplier ID, location of product and product picture. The supplier table shows supplier ID, supplier name and description about supplier. The final table is user table, which stores information

with regard to user ID, role of user, user name and password. These table give a framework of how to realise the CD import and export management.

The webpage of inventory management is designed in WampServer, which is a kind of virtual server that is created to assist web development. This software provides a pretty solid platform for staff to design their own products and it is fairly suitable tool for further technic development. As is shown in Figure 3, the first webpage is a login webpage. There are two types of username to be put in – admin and user. Admin could be regarded as supervisor who can have more access to the website management while the user is only able to use a controlled number of functions. The webpage of these two kinds of user are displayed in Figure 4 and Figure 5.



The screenshot shows the phpMyAdmin interface for a MySQL database named 'inventory'. The 'user' table is selected, and its structure is displayed. The table has 2 columns: 'id' (int(4)) and 'password' (varchar(255)). The table is using the MyISAM engine and the latin1_swedish_ci collation. The table size is 2.1 KiB.

Table	Action	Rows	Type	Collation	Size	Overhead
category	Browse Structure Search Insert Empty Drop	3	MyISAM	latin1_swedish_ci	2.1 KiB	-
export	Browse Structure Search Insert Empty Drop	1	MyISAM	latin1_swedish_ci	2.1 KiB	-
product	Browse Structure Search Insert Empty Drop	8	MyISAM	latin1_swedish_ci	2.3 KiB	-
supplier	Browse Structure Search Insert Empty Drop	3	MyISAM	latin1_swedish_ci	2.1 KiB	-
user	Browse Structure Search Insert Empty Drop	2	MyISAM	latin1_swedish_ci	2.1 KiB	-
5 tables: Sum					10.6 KiB	0 B

Figure 2: database of the project

[appendix] screenshot of each table & website



The screenshot shows a login page with a light orange background. At the top, it says "Please log in." in bold black text. Below this, there are two input fields: "Username:" and "Password:". Below the password field is a "Submit" button.

Figure 3: screenshot of login page

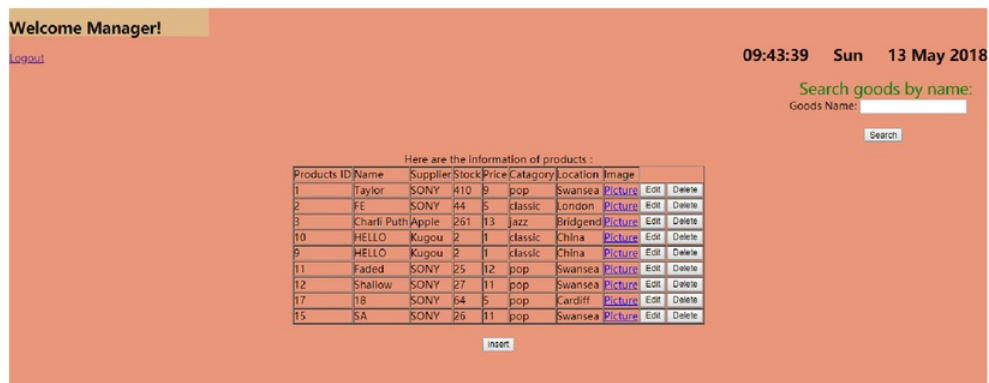


Figure 4: webpage of the admin function

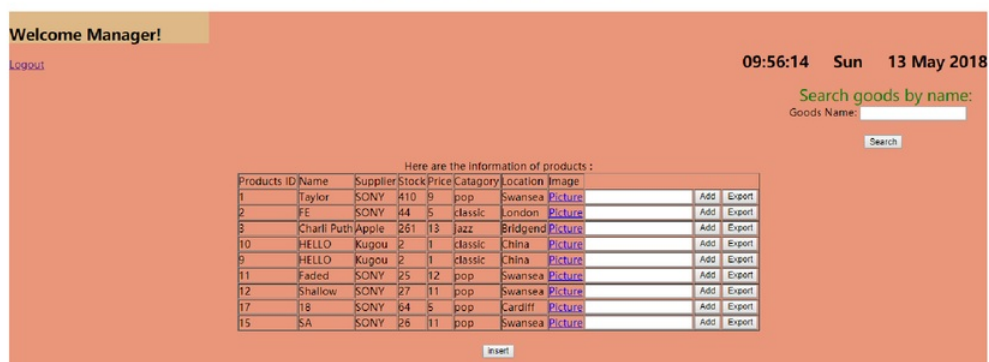


Figure 5: webpage of the user function

2. Assignment and Evaluation of Work

In Figure 6, four of our staff are listed in the form which includes resource name and work hours. To be specific, we cooperate together to achieve the same goal and each of us focuses on specific working task. Jerry and Jack all concentrate more on the website development and the database establishment, while Jerry is responsible for complete the casual map and Jack is supposed to do some researches on the goods inventory management technology and skills to present a better online system. Lucas and Lingling are all supposed to work on finding material to assist the development of the project and help to design the appearance of the webpage. Lucas is responsible for the risk analysis and Lingling will be engaged in the fact finding.

Each of the members has done a good job, though we had come across with some trouble in the process. For instance, when starting to choose an appropriate webpage to design, our team had a fierce discussion on which topic to pick and because of the disagreement of this issue, there was a delay on this part. After peacefully communicating within our teammates, we came to an end that we should design a webpage for inventory management [1].

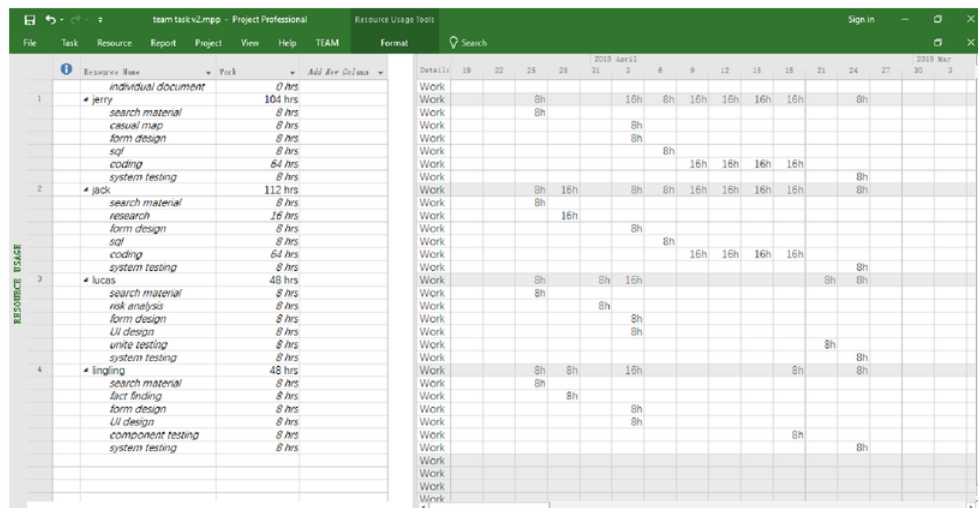


Figure 6: resource usage of this project

3. Risk Management

There is a causal map to demonstrate the potential situation may happen in the process of the project. The members work in different places and poor understanding may be the range of environmental risk and organizational risk which are mentioned in assignment 1. Members work in different places is difficult to change so the method of management should be thorough and careful to deal with this geographic trouble. Arranging online meeting regularly is a good way to control the unity of the team. On the meeting, staged achievement and adjustment of the goal should be talked about to make everyone in the team understand how they do their work in the past and what should be done in the near future. Poor understanding may happen among individual staff who are not so specialised in the working area. To cope with this, training on the staff is an effective method to avoid this risk.

Environmental risk sometimes is rare, but once it happens, it can cause great damage to the whole system and even lead to the abortion of the project. Devices and equipment like servers and personal computers are located in the physical building which faces the threats such as floods, fire and earthquake. If there is damage caused by these natural or man-made disasters, the process of the whole project will be in huge trouble. Measures like changing the equipment, fixing the database and testing the website will be inevitable. These steps are bound to disable the users' access to the website. To increase the safety level of the project with respect to, the room that equipment is being mounted should have security measures like CCTV and locked doors or cabinets. The room should have no windows and it should also be quite inside of the building. What is more, the rooms contain servers should be equipped with air conditioning to cool them down. As these machines are afraid of water, the server rooms should be away from water pipes. The position is not recommended in both top floor or bottom floor of the building as there are ceiling leaks on the top floor and building floods on the bottom floor. They are supposed to keep away from the external walls to prevent the wall collapsing to cause damage to the devices by accident.

Business risk is fairly common to be happened to the process of the project, like users need more requirement on the product, which may cause by the problems in design and the delays to the website. Therefore, more time is needed to fix this task. Handling with this trouble can in turn lead

to the delays in the development of the website. So these form a circle, which will cause damage to the system infinitely. Measures should be taken to break this circle in the risk management level to make the system stable. There are three elements in this circle and the “users need more requirement” seems can be solved more easily than other options. When users demand more requirement, we can negotiate with them and inform them about the problem we encounter. The critical thing is that while talking to the customers, the tone should be moderate and evidence should be prepared abundantly to persuade them.

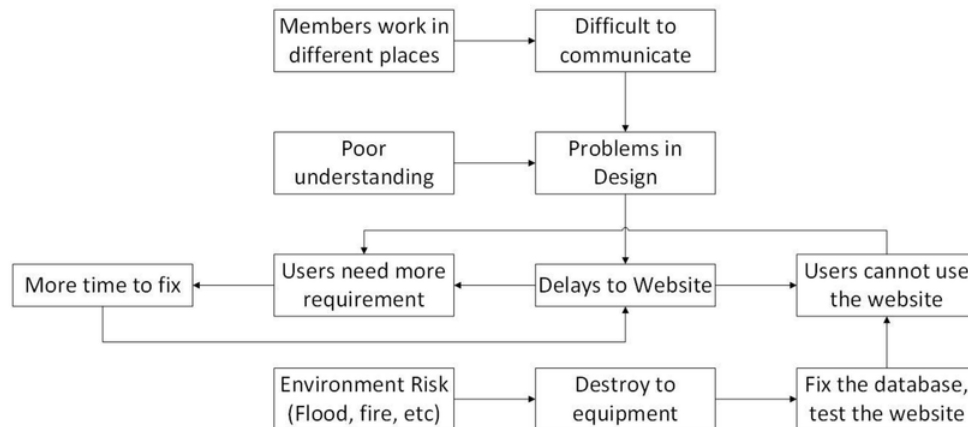


Figure 7: causal map of this project

To do the PERT analysis [2], critical path is shown in the Figure 8 – 10. The individual document should start at the beginning of the project and last for 36 days. This is the part that accompany with the processing of the project. Analysis should be done in about 6 days, which comprises of searching material, researching, fact finding and risk analysis. These sub-tasks should be done one by one rigrously accroding to the schedule to make sure the whole project can be completed on time. Analysis followed by database design and implementation, these parts cost respectively 3 days and 11 days.

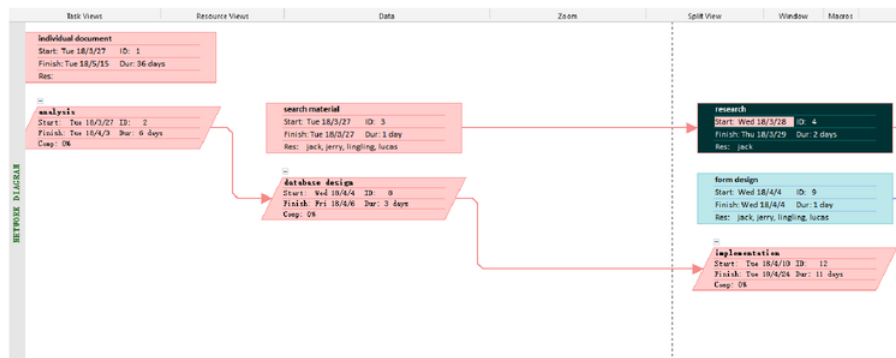


Figure 8: part 1 of network diagram

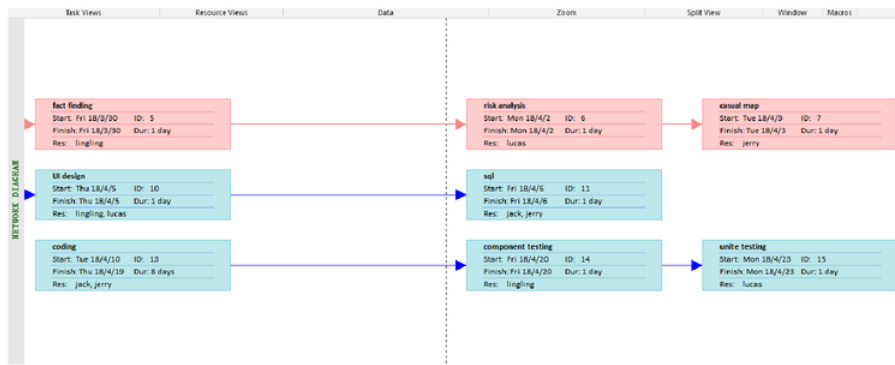


Figure 9: part 2 of network diagram

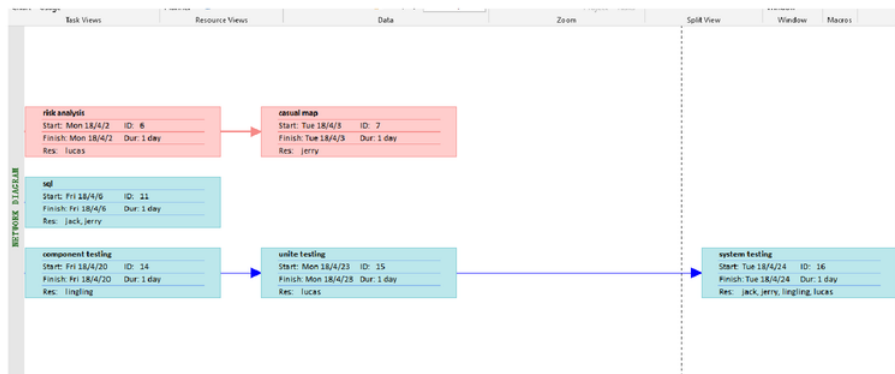


Figure 10: part 3 of network diagram

4. Sustainability Issues

The online system that HMW is intended to establish will deploy lots of technical resources, which should focus on four parts to realise its sustainability goal – social sustainability, environmental sustainability, technical sustainability and economic sustainability. Different from Lami's work [3], in Lago's work, a sustainability framework has been established to acquire the corresponding qualities that determine sustainability concerns of website development system [4]. In the production of the software, a large number of methods for quality assessment in software architecture have been created to sustain holistic determination and reasoning which plays an important part in achieving the sustainability goal.

The sustainability dimension aims at achieving sustainability evaluation objectives, which is usually recognised by the society and the whole industry. As environment seems to be an unchangeable value, it influences the choice of our sustainability dimension. Once sustainability dimension is set, there should be sustainability quality requirement to conduct practical aspect of the sustainability issue, which makes the tasks for realising sustainability goal more clear and feasible. To monitor the implementation of the sustainability act, evaluation criteria are also required to make the economic plan lasting as long as possible.

The social sustainability gives the guarantee that the following generation can have the equal access to social or natural resources that we are using at present. This step makes our humanity moving

forward as a united team, not just our own generation, which gives a huge possibility for the future generation and making the world a better place to develop.

The environmental sustainability concentrate on making the living atmosphere of our mankind greener and healthier. The life goal of human is not just about social progression, is also about the living quality of the individual on the planet. The environmental dimension of sustainability provide a view that our human should take good care of our own "garden" – earth to let us live healthier and better life.

The technical sustainability aims to improve the effectiveness in timing and hardware consuming in the lasting software-dominated field like internet-related company. The use of software can consume a lot of electricity by devices like servers or computers. Creating software with higher efficiency could reduce the time as well as hardware occupation to realise the goal of sustainability.

The economic sustainability focuses on achieving financial goal. Money spent on the constructing of the expected work is essential to make the project operating in a long-term period.

In the management level of the project in HMW, many measures should be taken to obtain the objective of sustainability. Staff usually work on their computers, which means if not necessary, the company is supposed to allow their employees to work at home if they can finish their work nicely on time at home. This step will surely reduce the use of private cars as well as public transports, which will have benefits on the environment and cut down the use of resources. It is also a good idea to reduce the consumption of the paper in the working office.

The production of paper will accompany with a remarkable amount of chemical pollution, huge consumption of water and energy and the transportation for delivering the paper will lead to lots of exhaust emitted to the atmosphere. Write more electronic document instead of paper one and reduce the use of printers, use electronic pads and projectors instead of paper version.

For software developers and web designers, their big objective is to make their software effective and efficient. They should acknowledge that their software or websites will be run on millions of machines that spread all over the world. That means they have the responsibility to cut down the energy consumed by electronic devices in a large range. Their software should be time-optimised and low-processor-used to complete the same function. A lot of attempts will be made on this step and HMW will gain a lot sustainability achievement in it.

5. Ethical Issues

Talking about ethical issues, the BCS (British Computer Society) publish a code of conduct to guide the individual behaviour to fit in with normal standard [5]. There are four aspects of this code – public interest, professional competence and integrity, duty to relevant authority and duty to the profession.

With regards to public interest, every staff in HMW should respect the privacy of the customers and consider thoroughly about the security issue existing in the holistic system. The public are realising the importance of the privacy of their own and many big international companies like Facebook are encountering crisis caused by privacy issue. So this field is really worth attention at present. In addition, any discrimination involved with topics like nationality, colour, race, sexual orientation, disability, ethnic origin, age, religion should be avoided by individual employees. Opportunities should be shared by peers in the IT field to compete in the level playing field.

In the aspect of professional competence and integrity, the staff ought to undertake the tasks or give a service that is in the broader of their professional competence and do not ask for any level of ability which staff do not acquire. They should also keep on studying the technological knowledge to meet the constant development. Legislation knowledge and understanding are necessary for them to have a clear mind on what responsibilities to carry out. Any harm to others' property, reputation is prohibited and reject any possibility to bribery or unethical temper.

Speaking of duty to relevant authority, responsibility should be taken according to the Relevant Authority's requirements. If there are conflicts of interest between oneself and one's Relevant Authority, it should be avoided in advance and take mild measure to solve it at this time. Accept what your colleagues have advised to you and respect their ideas. The staff should not mispresent information on the implementation of the products, systems or services, or benefit from the absent of relevant skills or incompetence of others.

While mentioning Duty to the Profession, the team members should take the responsibility to support the reputation of the profession and any action to make the profession disrepute is not advocated. Strengthen the professional standards in the development of the holistic system. To keep the regulation long-lasting and smoothly-conducted, the reputation as well as the good standing of BCS which is the Chartered Institute for IT are supposed to be respected by every individual staff. Mutual progression is the core objective, so encourage and support colleagues in the same team in their competent development.

6. Legal Issues

In the operating stage of the HMW project, several legal issues should be concerned about like data privacy, protection of the intellectual property and solutions to computer misuse. Talking about data privacy, personal data is data about living, identification and human beings. Any individual or organization that possesses the data can do things like holding, storing, gathering, deleting, modifying and analysing. Users may feel unsafe and angry if their data is used in a bad way that impair their interests. So following the regulation and giving their commitment is the rightest thing that we can do. Protection of the intellectual property includes protection of copyright and patent. Staff should keep in mind that stealing others' work is a dishonest behaviour and is bound to be punished. Computer misuse includes behaviours like attacking others online and stealing information via internet.

The General Data Protection Regulation (GDPR) of EU is the crucial change in data privacy regulation in 20 years, which finally approved by the EU Parliament on 14 April 2016 and will be put into implementation in 25 May 2018 [6]. This regulation will play an extremely important role in the IT industry that organizations which refuse to comply with will face heavy fines.

There are many changes that should be noticed and accessed in the GDPR [7]. The territorial scope of data protection has been increased which influence the pattern of act. No matter where the location of the company is, as long as it uses and processes the data that derives from the Union, it should obey the GDPR or it will be heavily punished. Employees in HMW should be aware that the processing of personal data in the IT field in the Europe Union by a controller or processor which is not located in EU. HMW sells CDs to customers online, which means it will generate a huge amount of data which contains customer privacy like name, location, time, interests and so on. Do not go beyond the control of GDPR, or a maximum fine of 4% of annual global turnover or €20 Million (whichever is greater) will be charged on the GDPR organizations.

In summary, the data involved with any potential overseas sales should be protected carefully and consents must be approved by the users in the boundary of the GDPR.

7. Reference

- [1] Atkinson, CL 2018, 'Performance Management for Learning, Reform, and Change: A Review of Three Recent Books', *International Journal of Public Administration*, vol. 41, no. 8, pp. 645-649. Available from: 10.1080/01900692.2017.1294009.
- [2] Use a PERT analysis to estimate task durations - Project (no date). Available at: <https://support.office.com/en-us/article/use-a-pert-analysis-to-estimate-task-durations-864b5389-6ae2-40c6-aacc-0a6c6238e2eb#bm1> (Accessed: 15 May 2018).
- [3] Lami, G., Fabbrini, F. and Fusani, M. (2013) 'A methodology to derive sustainability indicators for software development projects', *Proceedings of the 2013 International Conference on Software and System Process - ICSSP 2013*, p. 70.
- [4] Lago, P. et al. (2015) 'Framing sustainability as a property of software quality', *Communications of the ACM*, 58(10), pp. 70–78.
- [5] Rogério dos Santos Alves; Alex Soares de Souza, et al (2014) 'Code of Conduct for Bcs', *Igarss 2014*, (1), pp. 1–5.
- [6] EU GDPR Information Portal (no date). Available at: <https://www.eugdpr.org/> (Accessed: 15 May 2018).
- [7] Key Changes with the General Data Protection Regulation (no date). Available at: <https://www.eugdpr.org/key-changes.html> (Accessed: 15 May 2018).

8. Appendix

cid	cname
18	pop
1	classic
2	jazz

Figure 11: category table in the database

eid	pid	count	start	end	date
3	1	2	Swansea	Cardiff	2018-04-28

Figure 12: export table in the database

pid	pname	cid	pprice	pcount	sid	plocation	pic
1	Taylor	18	9	408	2978	Swansea	taylor.jpg
2	FE	1	5	44	2978	London	
3	Charli Puth	2	13	261	1	Bridgeend	
10	HELLO	1	1	2	2	China	
9	HELLO	1	1	2	2	China	
11	Faded	18	12	25	2978	Swansea	
12	Shallow	18	11	27	2978	Swansea	
15	SA	18	11	26	2978	Swansea	1034610.jpg

Figure 13: product table in the database

sid	sname	sdescription
2978	SONY	SONY Music
1	Apple	Apple Music
2	Kugou	Kugou Music

Figure 14: supplier table in the database

userid	userrole	username	userpassword
1	0	admin	1234
2	1	user	1111

Figure 15: user table in the database

```

1 <?session_start();//access session
2 include "conninfo.php";
3 $se1=$_GET["e1"];//get from URL
4 ?>
5 <html>
6 <head>
7 <style>
8     body{margin:0px;
9         top{width:310px;height:50px;background-color:#DEB887;position:absolute}
10    }
11 </style>
12 </head>
13 <body bgcolor="#E9967A">
14 <?if($_SESSION["userid"]=="")
15 {?>
16     <h1>Please log in.</h1>
17     <Form action="checklogin.php" method="post">
18         Username: <input type="text" name="uname"></input>
19         <br><br>
20         Password: <input type="password" name="pword"></input>
21         <br><br>
22         <input type="submit"/>
23         <br><br>
24     </Form>
25 <?>
26 else
27 {
28     $userid=$_SESSION["userid"];
29     $query="SELECT * FROM user where userid=$userid";
30     $result = mysqli_query($link,$query) or die("Couldn't execute query");
31     $userrow=mysqli_fetch_array($result);
32     $userrole=$userrow["userrole"];?>
33     <div class="top">
34         <h2>Welcome Manager!</h2>
35         <a href="logout.php">Logout</a>
36     </div>
37     <br><br>
38 <?/*-----1. Time Display-----*/?>
39     <h2 style="text-align:right">
40         <?>$signup=time();
41         <?>echo date('H:i:s', $signup); ?> &nbsp;&nbsp;&nbsp;
42         <?>echo date('D', $signup);?> &nbsp;&nbsp;&nbsp;
43         <?>echo date('d M Y', $signup);?>
44     </h2>
45 <?/*-----*/?>
46

```

Figure 16: screenshot of the partial web code

FINAL GRADE

58/100

GENERAL COMMENTS

Instructor

Intro & Plan

Introduction with Gantt chart (PERT chart appears later) - this sticks to the facts effectively, an improvement would be to further explain the need for monitoring the plan ad to reference technologies used.

Evaluation

Brief evaluation with team resource sheet. How did you manage over Easter when you were in different countries? Would you have assigned roles differently with hindsight?

Risk Management

Good explanation of causal map (including intervention points) and PERT chart. Good general discussion of risk and some examples form the project. In need of some proof reading in places.

Sustainability

Good explanation of sustainability - it looks like you have used and referenced Lami's framework to identify issues and could have presented these in the framework table for clarity.

Ethical and legal issues

Good discussion of selected areas form the BCS Code of Conduct with specific recommendations. An improvement would be to compare with other professional bodies such as the ACM or IEEE. Brief discussion of measures to comply with GDPR.

Overall a good report with hard work demonstrated. Your work could have benefited from proof reading and wider referencing.

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