# **Group Alpha**

# Project proposal

Someone makes a fancy cover page, with our name on it.

## **Introduction:**

## **Report:**

### **Client’s requirement**

* 1. ***Client’s summary:***

West Newcastle Academy (WNA) is a new primary school in Benwell, located on Newcastle upon Tyne, UK. WNA has requested for a system technology for its new school, which is called free school. The funding of the new free school is funded by State of Schools[[1]](#endnote-1), and its application was approved by the Newcastle City Council on 20th February 2015[[2]](#endnote-2). It’s worth notice that the new school is under construction.

* 1. ***Our goals and objectives:***

In accordance to our code of conduct, we aimed to provide WNA with a set of Information Technology solution that closely fulfill their operational requirement which is customized to the school’s condition and expectation. These are our objectives:

* To deliver products and services that facilitates the needs of stakeholders
* To consult to the needs of stakeholders on the currently available technology solution that might benefit them.
* To control and monitor the costs of the project within assumed budget.
* To update clients and involved party on the project.
* To facilitate the necessary training for integration/ maintenance of all products/ service after deliverance.

***1.3 Requirement summary:***

Upon review the client’s documentation, the following requirement are collected and modelled based on the needs of defined stakeholders as follow:

* **Children:**

*Input:* Educational content, in school and out-of school education needs.

*Output:* Technology to enable full time learning regardless of location.

*Process:* Deliver educational content to available interfaces to children.

Allow interaction between children and live content.

*Performance:* Must be able to support multiple user accesses.

Latency of content delivery must be keep as low as possible

Must compliance to Special Educational Needs and Disability.

*Security:* Must compliance to Safeguarding Children Policy and Procedures and Child Protection Policy[[3]](#endnote-3)

* **Teaching Staves:**

*Input:* Curriculum, teaching environment.

*Output:* Technology to enable the delivery of effective teaching.

*Process:* Display content and allow interaction between teaching staves and children more effective via a platform on classroom

Record lectures to allow keep safe of learning time as well as archive for revision.

*Performance:* Must be effective, completely put the physical implementation of simple blackboard and teacher’s own vocal to obsolete.

Easy to use to teacher with low level of technical knowledge.

Resistance to physical damage and or other environmental factor.

Must compliance to Special Educational Needs and Disability.

*Security:* Must compliance to Attendance Policy, Charging & Remissions Policy, Disciplinary policy and Child Protection Policy[[4]](#endnote-4)

* **Administration:**

*Input:* Report, performance, business details.

*Output*: Technology to capture, analyses, and report the required information to involved parties, both internal and external.

*Process*: Data entry via Administrative interface.

Data processing and storage onto private Schools storage.

Enable Data retrieving, processing to users with appropriate access controls level

Enable Data sharing/ back up on multiple fail-safe location.

*Performance*: Must be accurate and consistent.

Easy to use to staves with low level of technical knowledge.

Must be able to prevent data loss.

Data reporting must be optimized and well presented.

*Security*: Must compliance to Complaint Policy, Confidentiality, Confidential Reporting and Whistle blowing policy, Data protection policy, information and communication policy[[5]](#endnote-5)

* **Technical staff**

*Input:* IT infrastructure

*Output*: Technology to enable, support and maintenance IT equipment/ system.

*Process:* Enable Technical staff to integrate new infrastructure to the school activities.

Provide the training necessary for technical staff to run, monitor and trouble shoot IT infrastructure.

*Performance:* Must be available and reliable

Must be specific in details about the system for the ease of access.

*Security:* The same as Administration.

* **Governors:**

*Input:* Meeting, finance details and other areas of interest.

*Output:* Technology to facilitate the management of the school by meeting, presenting and assert control on schools performance.

*Process:* Provide IT procedures for coordination of meeting.

Provide IT equipment visualizing and representing data to audience, as well as IT equipment for enhancement of presentation to audience.

Provide highest access control level for checking on school’s performance, data on finance and other areas of interest.

Interface for issue direction to other staves/ public on schools policies as well as management of schools activities.

*Performance:* Must be available and secured (more on security)

Easy to use to staves and governor, with little help from IT staff.

Equipment must deliver high quality sounds and graphic presentation to audience.

Must be adaptive to change of management.

*Security:* The same as Administrator

* **Parents/Care takers:**

*Input:* Curriculum, school’s performance, children’s performance, parents concern.

*Output:* Technology to update users with information regarding the school and children performance, the curriculum and vice versa, to keep the school in touch with parents/ caretakers.

*Process:* Provide IT platform for parents/ caretakers with RSS feeds from school.

Automatically alert parents via e-communication with their child’s performance.

Provide well managed scheduling interface for parents to keep up with curriculum.

Platform for parents/ caretakers to voice their suggestion/ concerns.

*Performance:* Reliable and secured.

User friends, good GUI.

Affordable for all.

*Security:* Must compliance to Complaint Policy, Confidentiality, Data protection policy, information and communication policy[[6]](#endnote-6)

**Catering Staff:**

*Input:* Working schedule, foods safety regulation.

*Output:* Technology to ensure the delivery of quality and safe food.

*Process:* Provide Equipment/ Procedures to closely monitor food’s source and condition.

Provide monitoring devices for catering works.

Provide information for the promotion of healthy eating.

*Performance:* Must be accurate and highly available.

Resilience to the physical and environmental damage.

*Security:* The same as Parents.

### **Proposed solution:**

#### Computer Lab.

To fulfill the educational need of children in the current vast advancing technologies, we proposed to build a computer lab for students. The lab will provide children with useful lab session, where students can access to various educational contents provided by school and other certified association. In addition to that, computer lab will help the children in getting in touch with current technology.

Due to the nature of a small-medium educational institution with 200 children, on the basic of each cohort is 28 students[[7]](#endnote-7), it is recommended that there should be 35 computers for the lab. Depend on school’s curriculum, the lab will server each classes on weekly round-robin manner. The lab will require about 50-60 square meters ground area, hence it is intended to implement the lab in one of the Key stage room (55 m2).

The specification of hardware on Student’s PC desktop is given as follow. It follows the current technology state of 2016, based on the Recommendation of Colorado Office of Information Technology[[8]](#endnote-8), with modification to suit West Newcastle Academy.

|  |  |  |
| --- | --- | --- |
| HARDWARE PARTS | MINIMUM RECOMMENDATION | HIGH PERFORMANCE |
| **CPU** | Intel Core i5 | Intel Core i7 |
| **RAM** | 8 GB | 16 GB |
| **Hard Drive** | SSD (256 GB or more)  Or 500 GB Hard Drive | SSD (256 GB or more)  OR 1 TB Hard Drive |
| **Video Card** | Integrated Graphics Card | Dedicated Graphics Card with 1 GB memory. |
| **Monitor** | * 19” LCD monitor, resolution starts from 1600x900 | |
| **Network Adapter** | * Ethernet/IP, 802.11ac 2.4/5 GHz wireless adaptor | |
| **Ports** | * USB 3.0 |  |
| **Warranty** | 1. 3 years | |
| **Desktop physical Security** | * Desktop physical locked frame. | |

*Table 1: Specification for Computer in PC lab.*

For software installation, the following recommendation establish the basic working machine on computers. Other software might be installed in addition to customize the needs of student/ teacher:

|  |  |
| --- | --- |
| TYPE OF SOFTWAREs | RECOMMENDATION |
| ****Operating System**** | * Windows 10, 64-bit |
| ****Productivity Tools**** | * Microsoft Office 2016 |
| ****Web Browser**** | * Chrome * Firefox |
| ****Email Programs**** | * Google Mail * Outlook 2016 * Google Hangout |
| ****Video Conferencing/IM**** | * Skype * Zoom |
| ****Virus/Anti-spyware Protection**** | * Windows Defender |
| ****External Storage**** | * Google Drive or Microsoft One Drive * Flash drive or External hard drive |

*Table 2: Specification on Computer’s lab computer software.*

#### E-learning.

To fulfill the educational need of children outside of school, we proposed to implement an e-learning system. Nowadays, curriculum and learning material are being delivered online to students, with interface fit to use on both home pc and mobile devices.

To provide such services and platform, we are in partnership with Blackboard – an awards winner on Campus Technology and 2016 WebRTC product of the years. In essence, we will work hand in hand with Blackboard to customize the platform and application suits to West Newcastle Academy, which will fulfill the requirement listed on Section II.1.

The system will provide an internet platform so that students and parents will be able to view/ download course material, get notification on new updates from school and upload/ submit works via internet. Teacher will be able to uploads contents, view student’s submission on the platform.

More details can be viewed here <http://anz.blackboard.com/services/platform-training-services.aspx>.

#### Classroom Technology Utility:

To fulfill the requirement of teacher with teaching aided technology, we proposed to install technology utilities and equipment on classroom. According to research done by Ozturk, Demir and Dokme[[9]](#endnote-9), it is observed that a 100% of teachers nowadays utilize the visualization and demonstration power of computer and project.

The computer to be installed at classroom will have the same specification of a staff computer (see section II.v).

Each classroom will be provided with a computer connected to projector, and a projector’s screen. The projector suits the school facility to our selection is BenQ MX528 model[[10]](#endnote-10), with the newer DLP display technology compared with LCD from older models, it provides better image contrast quality and deeper black level, and hence children won’t have any trouble viewing the content. Further specification is shown as follow:

|  |  |
| --- | --- |
| Feature | Specification |
| Projection technology | DLP |
| Native Resolution | XGA |
| Brightness(Lumens) | 3300 |
| Contrast Ratio | 13000:1 |
| Lens Ratio | 1.96-2.15:1 |
| Optical Zoom | 1.10x |
| Connection | HDMI, VGA |
| Dimensions (W x H x D) in cm | 2270 x 974 x 2222 |

*Table 3: Specification of projector.*

The screen proposed will be Sapphire in Ceiling Electric Screen, model SESC200BWSF-A[[11]](#endnote-11), in order to save more space in class room. The specification of the screen is shown as follow:

|  |  |
| --- | --- |
| Feature | Specification |
| Ratio | 16:9 |
| Viewing Height (cm) | 114.50 |
| Viewing Diagonal (cm) | 233.06 |
| Viewing Width (cm) | 203.00 |

*Table 3: Specification of screen.*

#### School mailing system:

In order to provide a communication platform for every involved individuals, from school governor, teacher, staff, parents/ student’s representative, we propose the use of Google’s G Suite for Education. The first and foremost reason to implement this system is because that Google has their policy to provide free service for any non-profit educational institution[[12]](#endnote-12). With West Newcastle Academy classified as “Free school” and is approved by Local Education Authorities, the new school is eligible to Google’s G suite for free. It is Includes Classroom, Mail, Calendar, Drive, Docs, Sheets, and more. For access control and management, G suite provides additional domain and user management features through the Admin Console.

According to Google Statistic, the system will saves 52 teacher hours per year, 90% less labor to support with 99.9% uptime and 329% return on investment (if any)[[13]](#endnote-13) .

On the project, we will manage the liaison with Google as third contractor, and provide to details the guidance, requirement as well as negotiation with Google in order to archive the system to our desired. On completion, the system will provide emails and chats, shared calendar, websites and a face to face chat, as well as the archive and monitor the flow of communication inside and outside school.

## **List of assumptions:**

Well, this is the part where you list the stuff you think is the current situation of the school. We’ll look into it later.

## **Gant chart for implementation:**

To be update

## **Risk Assessment:**

To be update

## **PERT/Network:**

To be update

## **Human Resource Histogram:**

To be update

## **Costs:**

|  |  |  |
| --- | --- | --- |
| HARD WARE PARTS | MINIMUM RECOMMENDATION | HIGH PERFORMANCE |
| **CPU** | Intel Core i5 | Intel Core i7 |
| **RAM** | 8 GB | 16 GB |
| **Hard Drive** | SSD (256 GB or more)  Or 500 GB Hard Drive | SSD (256 GB or more)  OR 1 TB Hard Drive |
| **Video Card** | Integrated Graphics Card | Dedicated Graphics Card with 1 GB memory. |
| **Ports** | * USB 3.0 |  |
| **Warranty** | 1. 3 years | |

*Table 1: Specification for Computer in PC lab.*

# **Appendix:**

**Notes on the explanation/ reference of articles:**

1. From West Newcastle Academy Funding agreement, 23rd May 2013. Taken from <http://www.westnewcastleacademy.org/our-school/school-info/accounting>, accessed on 12th Oct 2016. [↑](#endnote-ref-1)
2. From planning consultation of new school, Taken from http://www.westnewcastleacademy.org/our-school/planning-consultation-new-school, accessed on 12th Oct 2016. [↑](#endnote-ref-2)
3. From West Newcastle Academy school policy including Safeguarding, taken from <http://www.westnewcastleacademy.org/our-school/school-policies>, accessed on 12th Oct 2016. [↑](#endnote-ref-3)
4. From West Newcastle Academy school policy including Safeguarding, taken from <http://www.westnewcastleacademy.org/our-school/school-policies>, accessed on 12th Oct 2016. [↑](#endnote-ref-4)
5. From West Newcastle Academy school policy including Safeguarding, taken from <http://www.westnewcastleacademy.org/our-school/school-policies>, accessed on 12th Oct 2016. [↑](#endnote-ref-5)
6. From West Newcastle Academy school policy including Safeguarding, taken from <http://www.westnewcastleacademy.org/our-school/school-policies>, accessed on 12th Oct 2016. [↑](#endnote-ref-6)
7. ## CM547 Professionalism and Project management

   [↑](#endnote-ref-7)
8. http://www.colorado.edu/oit/software-hardware/ [↑](#endnote-ref-8)
9. The use of technology is gaining importance in the developing world: the problems of primary school teachers encountered about computer technologies and solution suggestions Nurhan Öztürk a \*, Ramazan Demir a , ølbilge Dökme a Gazi University, Gazi Faculty of Education, Department of Science Education, Ankara, 06500, TURKEY [↑](#endnote-ref-9)
10. http://www.projectorpoint.co.uk/benq-mx528.html [↑](#endnote-ref-10)
11. http://www.projectorpoint.co.uk/sapphire-in-ceiling-electric-screen-16-9-203-x-114-5cm-sesc200bwsf-a.html [↑](#endnote-ref-11)
12. https://support.google.com/a/answer/134628 [↑](#endnote-ref-12)
13. https://www.google.com/edu/products/productivity-tools/#how-to [↑](#endnote-ref-13)