



# Integrated Project

## 2021

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Private  
Tertiary  
Education  
Provider

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## Integrated project: 2021

**Hand out:** 16 August 2021

**Submission:** 12 November 2021

### Purpose:

The purpose of the integrated project is to provide students with experience of collaborating between various subject streams. The project simulates industry practice and will contribute to students' Work Integrated Learning (WIL) component. The simulated project further encourages integration between the learning environment and reality as well as allowing for the development of critical cross field skills:

- Identify and solve problems in which responses demonstrate that responsible decisions using critical and creative thinking have been made.
- Work effectively with others as a member of a team, group, organisation, community.
- Organise and manage oneself and one's activities responsibly and effectively.
- Collect, analyse, organise and critically evaluate information.
- Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation.
- Use science and technology effectively and critically, showing responsibility towards the environment and health of others.
- Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

### Brief description:

The World Economic Forum (WEF) describes the Fourth Industrial Revolution 'as a fundamental change in the way we live, work and relate to one another. It is a new chapter in human development, enabled by extraordinary technology advances commensurate with those of the first, second and third industrial revolutions. These advances are merging the physical, digital and biological worlds in ways that create both huge promise and potential peril. The speed, breadth and depth of this revolution is forcing us to rethink how countries develop, how organisations create value and even what it means to be human' <sup>1</sup>.

The fourth industrial revolution is an environment in which disruptive technologies and trends such as the Internet of Things (IoT), robotics, virtual reality (VR) and artificial intelligence (AI) are changing the way we live and work.

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<sup>1</sup> <https://www.weforum.org/focus/fourth-industrial-revolution>

TECHSPO Johannesburg is a two-day technology expo scheduled for the 2<sup>nd</sup> and 3<sup>rd</sup> of November 2<sup>nd</sup> to 3<sup>rd</sup>, 2022 in the Ticket Pro Dome. The expo brings together developers, brands, marketers, technology providers, designers, innovators and evangelists looking to set the pace in our advanced world of technology. Showcasing the next generation of technology and innovation. Exhibitors have the opportunity to show off their companies to thousands of consumers, the highest calibre investors, hordes of press, the most soughtafter talent, and the greatest pool of tech enthusiasts looking to celebrate emerging venture (<https://techspo.co/about/>).

In groups consisting of members representing all of the 2<sup>nd</sup> year programs at CTU Training Solutions, students are required to plan and develop an event for launching the TECHSPO event. The duration of the event is to be three (3) hours and should include a mix of speakers and entertainment.

The event is scheduled for 2 November in the Ticket Pro Dome. There will be an estimated 4 000 attendees and the event further is to be streamed live.

### Group allocation:

In allocated groups representing various programs, students are required to plan and present a thorough, well researched event. The following faculties and programs should be represented in each group.

- Business Faculty
  - Financial Accounting 2
  - Financial Management 2 (FM2)
  - Project Management 2
  - HR Management 2
  - Tourism 2 – 4 students per group
- IT Faculty
  - IT Cloud Solutions Administrator
  - Software Development
  - Game Development
  - App Development
- Design Faculty
  - Web Development
  - CAD 2
  - Graphic Design 2

Each group should have a leader and a supervisor. The group leader is appointed from the group of students and the supervisor is to be an appointed facilitator. Groups members are required to convene at minimum once a week – on Campus or virtually in Microsoft Teams. Each of these meetings as well as a screen grab of attendees are to be recorded and submitted as part of the evidence.

## Evidence requirements:

There are two (2) types of submissions that all students should adhere to:

- Group project
- Individual Work Integrated Learning (WIL) submission

## Group Project:

This is the group project in its entirety consisting of required evidence relevant to all programs represented in the group. Each of the programs will receive a specific project brief detailing evidence requirements.

The completed project is to be submitted as a single PDF document. The document is to be structured in a manner that clearly defines each of the program evidence submitted and should include dividers clearly indicating the program evidence eg Graphic Design. Students may structure the document in the following manner:

- Cover page:
  - Integrated project 2021
  - Group number
  - Names of group members
  - Name of supervisor
- Divider 1: eg. Project management
  - Insert all required evidence for Project Management
- The rest of the programs are to be presented as per example. In the case of additional file formats outside of a pdf, these files need to be adequately named and uploaded to Colcampus.

All recorded evidence from Team meetings can be uploaded in a zipped folder named *Meetings*.

The group project evidence is to be uploaded by the group leader to Colcampus.

## Individual Work Integrated Learning (WIL) submission

Each individual group member is to upload the following evidence to the WIL module on Colcampus

- Completed WIL logbook detailing time spent on activities completed in the development of the project.
- Evidence of the individual member's contribution to the project. This can include all planning documentation, input and elements completed for the final project.
- Activities and time reported on the WIL log book should align with the evidence presented.

## Graphic Design

*TECHSPO - Where Business, Tech and Innovation Collide!*, is scheduled for 2<sup>nd</sup> of November 2022 at the Ticket Pro Dome. There will be an estimated 4 000 attendees and the event further is to be streamed live.

The duration of the event is two (2) days and will include a mix of developers, brands, marketers, technology providers, designers, innovators and evangelists.

In groups of six (6), students are required to plan and develop design deliverables for the TECHSPO brand and launch of the TECHSPO expo. The focus of the project therefore is not on the TECHSPO brand but on promoting the launch of the event.

### Design Deliverables:

- Project Scope
  - Group Members List
  - Responsibilities
  - Resource
  - Phases due dates
- Logo TECHSPO.
  - The logo should consist of an icon and logo type
  - Logo type - TECHSPO
  - The TECHSPO will be displayed on all deliverables as a separate entity
- Ticket Pro Dome Banner. The banner will be used at the street entrance to the venue and should be approximately 3 meters x 1,5 meters landscape
  - The following information is to appear on the banner
    - Logo – TECHSPO
    - 2<sup>nd</sup> and 3<sup>rd</sup> of November 2022
    - Slogan - Where Business, Tech and Innovation Collide!
    - TECHSPO Website URL and contact details
    - Ticket Pro Dome Logo Website URL and contact details
- Street Pole advertising. These posters will be placed at designated spots next to busy intersections. The posters should be A1 portrait in size.
  - The following information is to appear on the banner
    - Logo – TECHSPO
    - 2<sup>nd</sup> and 3<sup>rd</sup> of November 2021
    - Slogan - Where Business, Tech and Innovation Collide!
    - TECHSPO Website URL and contact details
    - Ticket Pro Dome Logo Website URL and contact details
- Expo Website UI/UX Prototype. Students are to collaborate with the Web students in the group and set up a prototype that at minimum should include the following:
  - Wireframe

- Landing page
  - E-commers for merchandise (Expo T-Shirts, mugs, etc)
  - Students may make adjustment to the wireframe if and where applicable.
- Signage: Students are to collaborate with the CAD students in the group and develop signage for each of the faculties that is represented in the exhibition centre. The signage designs are to be applied to the CAD three-dimensional representations.

**Material requirements:**

Students require access to the following resources to successfully complete this project:

- Online sources for research purposes
- Sketch paper, greyscale pencils
- Access to Adobe InDesign, Adobe Illustrator, Adobe Photoshop and Adobe XD

**Project outcomes:**

In alignment to the learning outcomes stated, students need to demonstrate competency in:

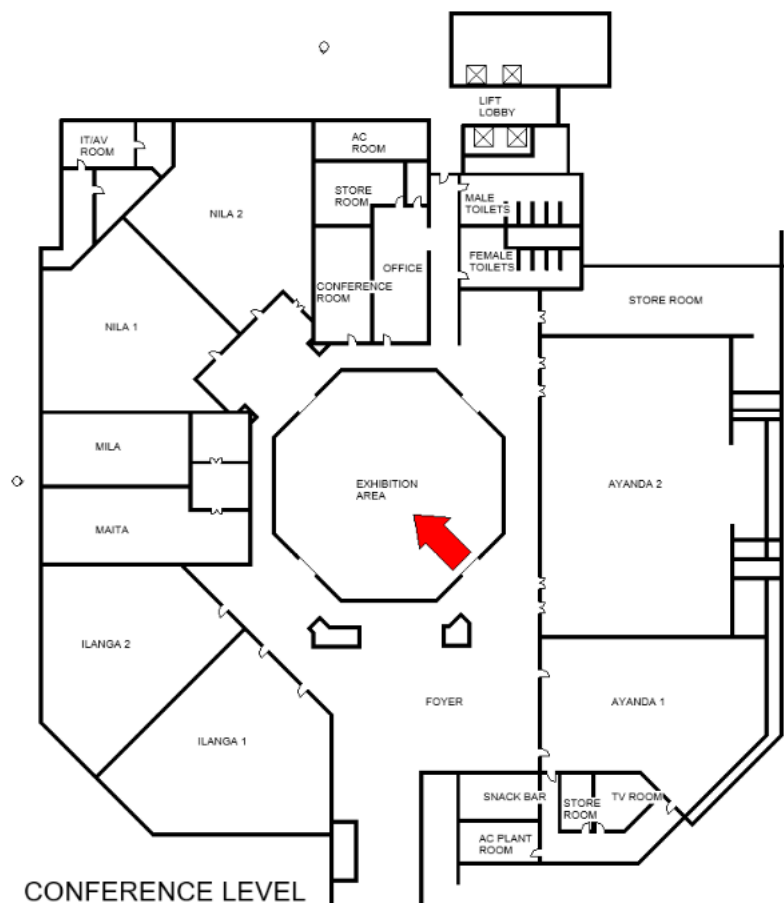
- Producing innovative design ideas
- Executing design ideas in a professional manner
- Developing and maintaining visual coherence between the various elements in the campaign.

## Computer Aided Draughting: CAD 2

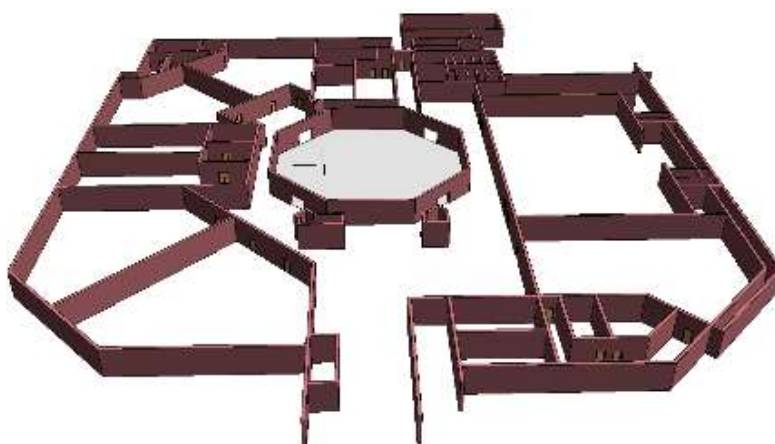
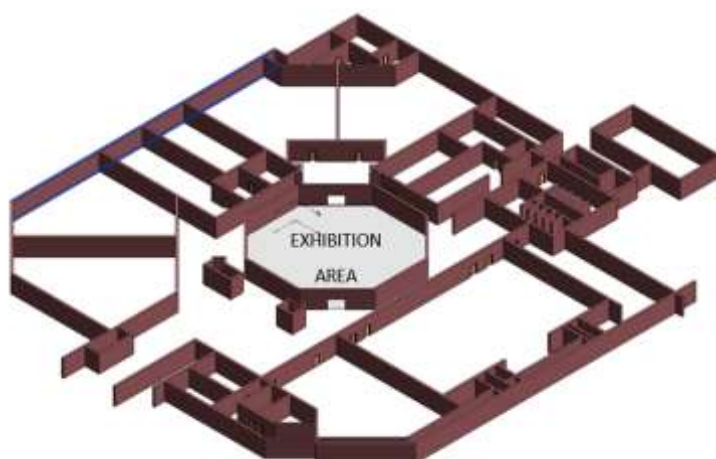
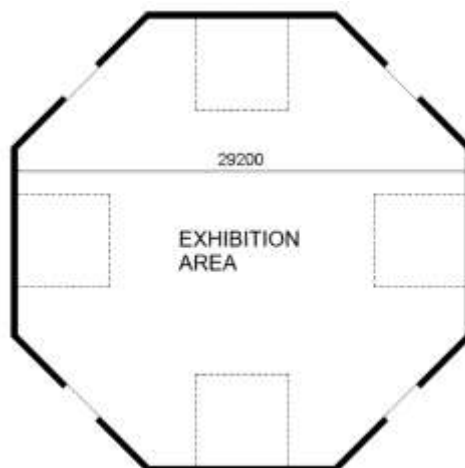
### Project description:

CTU Training Solutions has booked space at TECHSPO to promote program offerings. They require a stand designed to represent each of the CTU Training Solutions faculties: Business and Management, IT, Design and Nated. Students are required to use the floor plans of TECHSPO Johannesburg and design a floor plan layout that will show the allocated space for the different exhibition areas. Students are also required to design an Exhibition display stand for each Faculty to display and present their subjects.

- Design an Exhibition stand for each faculty approximately (36m<sup>2</sup>), to fit inside of the octagon.
- Include a Lounge area where visitors can relax or network outside of the octagon. (60m<sup>2</sup>)
- Consider an area for refreshments outside of the octagon (coffee, sandwiches...)
- There needs to be an area provided for live discussions and Q&A sessions outside of the octagon. (50m<sup>2</sup>)







Examples of Exhibition stands.





### Evidence Requirements:

The following needs to be submitted to Colcampus:

- Completed declaration of authenticity
- All evidence (pdf documents) to be saved and submitted in a folder named **your name\_ CAD2\_IP** (i.e. MarlanNefdt\_CAD2\_IP)
- All evidence must be uploaded onto Colcampus and the EPOE System.
- No 'zip folders' to be uploaded on EPOE System, any zip folders will be deleted and sent back for corrective actions.

Submission list:

Floor plan layout of the different Faculties. (as a group)

- Design Sketches (At least 2 - Freehand)
- Floor plan
- 1 x External Rendered View
  
- Exhibition Display Stand (one for each faculty) (individual assignment)
  - Design Sketches (At least 5 - Freehand)
  - Floor plan
  - Section Views
  - 4 x Elevation Views
  - 1 x External Rendered 3D View
  - 1 x Internal rendered views
  - Include the CTU logo and the Faculty name in your designs
  - A walkthrough video that will showcase your exhibition stand only
  
- Present your designs using a Power-point presentation to the client which includes all info on the Exhibition display stand.

Please note that all views should be properly sheeted with title block fully filled in.

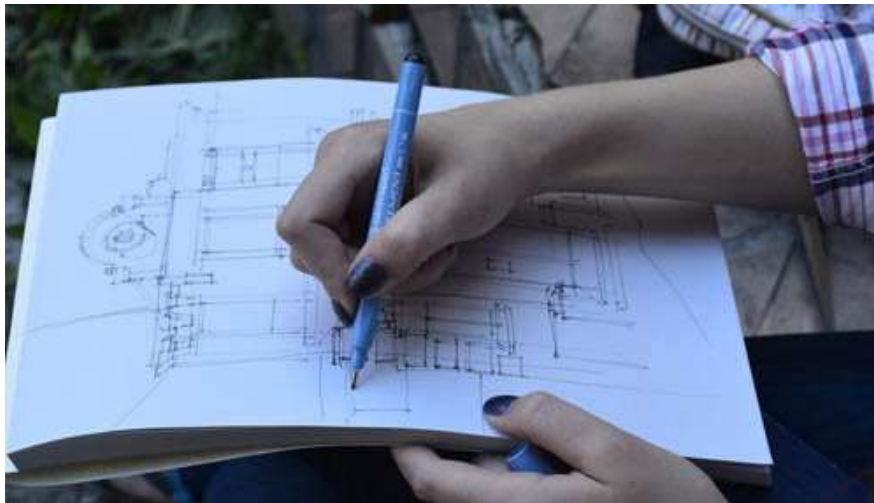
The below link will provide you with some ideas:

<https://youtu.be/GsK9k0PkzRU>

### Steps in Exhibition Stand Designing

Here is the standard step process in Exhibition stand designing:

#### Concept Development - How to start?



Through a briefing process, you will have a clear idea of what they trying to accomplish. Good old sketching & researching is what is done here in order to start the process. This could even be done right in the briefing meeting, which can save a lot on communication time.

#### 3D Modeling & designing





Once you have an idea of the concept and goal, working on the programs begins.

### 3D Rendering - Exhibition stand design modelling

This video shows you how an exhibition stand design is done, and how a designer creates those 3D realistic renders.

### Design programs - What exhibition stand designers use?

90% of exhibition stand designers around the world use these programs on a daily basis:

- **Revit:**



An architectural program, leaning more to the 'technical side' for sky scrapers & complex buildings. Though modeling and rendering much easier and quicker than Studio Max.

- **Inventor:**



Autodesk® Inventor® software provides engineers and designers a professional grade solution for 3D mechanical design, simulation, visualization, and documentation. Autodesk Inventor includes powerful modeling tools as well as multi-CAD translation capabilities and industry standard DWG™ drawings.

- **AutoCAD:**



AutoCAD now includes industry-specific features and intelligent objects for architecture, mechanical engineering, electrical design, and more.

Regardless of the programs used, awesome designs can be easily presented, just depends on the skill of the user.

### Putting together the presentation



The last thing to do, is to get the design in a presentable format. This is what will be presented to the client, and 3D renderings are by far the best way to present a design, where the client can see exactly what they can expect from the project. A video walk-through is even better.

#### Designers goal (exhibition stands requirements)

As an Exhibition stand designer, there are a few key aspects in trade shows that needs consideration.

- **Height:** Exhibiting companies require good visibility across halls. With this in mind, you need to make sure visitors can identify them easily.
- **Brand Theme:** CTU's corporate identity is what needs to be highly present, as an exhibition stand is basically a company profile in a structural version. The Stand must also showcase the Faculty, for example, the Design Faculty would lean towards a very clean high-tech stand design, with plenty general and led lighting.
- **Awareness:** Basically, having the product or service of the Faculty clear and understood by visitors, without the need of explaining what is studied.

In other words, starting the design directly around the main focus of the Fourth Industrial Revolution (4IR) show, will lead to a successful marketing strategy.

## Web Development

### Phase 1-Planning

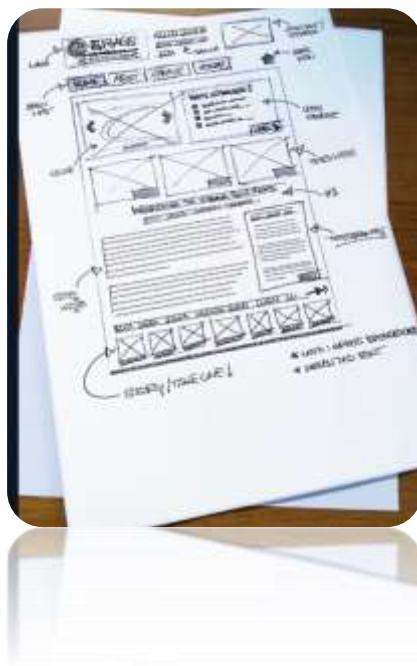
With the knowledge and skills, you have accumulated over the last few months you will now create a new website for TECHSPO. There will be an estimated 4 000 attendees over the two days.

You are required to design the following pages:

- Welcome page - Welcoming users to the website
- Members only page.
- About - Information about the event.
- Online store selling promotional material.
- Contact us page where member can sign up for any news on the event

### Preliminary work:

- Present rough planning for the layout, structure and flow of your site. All rough planning should be included as evidence. The GD2 students will help create the wireframes and the prototypes
- Based your rough planning, create a basic plan to show your client the layout, structure and flow of your site. It should be clear and easy for your clients to understand. Both you and your client should be happy with the structure and layout. Your facilitator would need to approve this before going to phase 2.
- Make sure to provide all rough planning to the Graphics 2 students they who are required to create the prototype.
- The WEB development and Graphics team will choose colour combinations and typographic themes.









### **“Members Only” page:**

- This page requires a username and password to access the members lounge. Buttons include a “Login” and “Register” option (If the username AND/OR password is not entered correctly, a message must come up denying access to the user)
- The “Register” option is for new members. The register button must lead to a form asking personal information such as Name, Surname, E-mail Address, Username and Password, etc. (A message should appear if any one of the criteria is not filled in by the user.)



### **The About page:**

- Inside the About page the information needs to be provided about the expo.

### **The Online Store:**

- The online store sells products relevant to the theme of TECHSPO and will include t-shirts, mugs, promotional material, clothes, merchandise, etc.
- The online store must contain:
  - A Product list (Keeps track of your inventory): Contains the following information – Product Number, Name, Description, Price and Date Added.
  - A Store Home Page (Allows the member to see a specific product): Contains the following information - thumbnail image of the product, Name of the product and a price. (You can make it up as you go along, but all images must be photographs you have taken, or graphics you have created.)

When the user clicks on either of these options, he/she should be able to see the details of that product including the enlarged Product Image, Product Number, Name, Description, and Price. A button to “Add to cart” and another to “View Cart”, and also a link back to the main page.

  - The Shopping Cart (When “Add to Cart” is selected the product is added to the cart): A user should be able to view the cart, add, change and delete items to the cart and go through the steps of checking out a product.
  - Use the designs provided by the GD2 students on your website as merchandise
  - Checking Out Process:
    - Step 1: Billing and Shipping information
    - Step 2: Verify Order Accuracy
    - Step 3: Order Confirmation



- The logo and all content needed will be provided by the Graphics design 2 students.

### The Contact us page:

- The Contact page will show the users where the expo will be and how they can contact anyone for more information. Users further should be able to view a map of the location
- You are further required to create a Standard google form that will look like the following

- Test 1 – Run Test 1 of your test plan before continuing with the process. Fix any problems/incompleteness for review.
- Make sure that your team agrees with the design and functionality of the website

### Finally

- Test Review – Run your review test of your test plan to ensure everything is complete and in working order with no issues being reported.

## Financial Accounting

Accounting and costing principles exist in all organisations across the world, but there are some specifics that will apply to this event planning category. As the Financial Accountant contracted by TECHSPO, you are required to provide budgets, cost projections and procurement for the planned expo.

1. The following elements need to be presented:
  - 1.1. Material purchases budget
  - 1.2. Cost of raw material purchases
  - 1.3. Labour budget
  - 1.4. Labour cost
  - 1.5. Cost projections of the different cost centres
  - 1.6. Procurement

## Human Resource Management:

TECHSPO plans a special event on the evening of the opening, 2 November 2022. The event will start at 19:00 at the expo venue. They are planning to accommodate entertain 1 000 attendees for 3 hours. The basic HR functions exists in all organisations across the world, but there are some specifics that will apply to this event planning category. You, the HR professional, will focus on staffing, event tracking, employment - and risk analysis.

1. You need the right people to execute the plans that you crafted. Without the right people say goodbye to your goal of creating a successful event. You will conduct the following: (50)
  - 1.1. Identify what employees are needed throughout the entire event. Each and every person working at the event needs to be accounted for. Identify the position and give a short description of the role.
  - 1.2. The Human Resources team recruit applicants for open positions and help find the right employees for a given position. Discuss how you will conduct the Recruitment and Selection process in order to attain the workforce you require for the event.
  - 1.3. Indicate which employees will be permanent, part-time, outsourced or volunteers.
  - 1.4. Creating accurate job descriptions is an imperative part of recruiting either permanent, contract or voluntary staff for an upcoming event. Choose any five (5) employees from different departments, and draw up a detailed job description document for each of them.
  - 1.5. A key area for all HR professionals is providing the right training for the correct employees. New recruits will need training in their various departments in preparation for this event. Indicate who you think needs to receive training and identify for what they need to be trained.
2. TECHSPO are planning to include various speakers in the event- finding such a person, now becomes your responsibility. Identify two (2) real-life speakers that you think will be suitable to present at the event. Focus on the following: (10)
  - The speakers have to have knowledge about the 4th Industrial Revolution.
  - You have to list their qualifications and experiences- identify what makes them suitable to be a speaker at this event.
3. Human Resource Management software is fast becoming one of the most popular ways of managing the performance of employees, setting new goals, managing employee leave and much more. Identify any software/program that you could use to manage the event schedule, employee/team performance, recording tasks and ensuring you stay on budget. You can use any software you think will work best to suit your organizing needs. (10)
  - Explain the software you chose and identify what it is used for.
  - Discuss how you will utilize this program to manage and benefit TECHSPO's event.
4. Set up a SWOT analysis for this event, so TECHSPO can identify the different factors that can impact their event. Discuss five (5) points underneath each factor. (20)
5. During the event there may be instances where something goes wrong. You, as the HR professional should be ready to handle anything during the event to ensure that it is a success. Identify what can go wrong and how you will handle the situation while the event is occurring. (10)

Total: 100

## Project Management:

TECHSPO wants you, the Project Manager, to plan the expo, which is scheduled for 2-3 November 2022 in the Ticket Pro Dome. A project manager is a person who has the overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. This means that the success of this project depends on your ability to:

1. Conduct effective communication, while working on a project.
2. Plan the project.
3. Execute and control the project.

**Project Management Students will have the overall responsibility for the successful initiation, planning, design, execution, monitoring, controlling and closure of a project. They should control risks and minimise uncertainty.**

Although they will be working with other students from different faculties, Project Management students will ensure that the project is delivered in time according to the Project Plan. The following will be followed:

1. **Initiating phase**
  1. Developing a project charter
  2. Identifying stakeholders
2. **Planning phase**
  1. Developing a project management plan
  2. Defining and managing scope, creating a work breakdown structure (WBS), and requirements gathering
  3. Developing schedules, activities, estimating resources and activity durations
  4. Planning and identifying quality requirements
  5. Planning communications
  6. Identifying potential risks, performing qualitative and quantitative risk analysis, and planning risk mitigation strategies
  7. Planning for and identifying required procurements
  8. Planning for stakeholder expectations
3. **Executing**
  1. Directing and managing all work for the project
  2. Performing all aspects of managing quality
  3. Managing all aspects of communications
  4. Take action on securing necessary procurements
  5. Managing all stakeholder expectations
4. **Monitoring and controlling**
  1. Monitoring and controlling the project work and managing any necessary changes
  2. Time management: Controlling the scope of the project
  3. Quality management: Controlling the quality of deliverables
  4. Communications management: Controlling all team and stakeholder communications
5. **Stakeholder management: Controlling stakeholder engagements**
  5. Closing

**Integration management: Closing all phases of the project****Evidence to be gathered by the students in line with the following exit levels outcomes**

1. **Conduct effective communication, while working on a project.**
  - Meetings agendas
  - Minutes of meetings
  - Emails send as communication to project stakeholders
  - Communication Plans
2. **Plan the project.**
  - Project documents e.g. Project Plan
  - Scope statements
  - 10 knowledge areas document e.g. risk management plan etc
  - Schedules for the project
3. **Execute and control the project.**
  - Controlling documents e.g. budgets from Finance students etc
  - Reports meant to control the project
  - Performance evaluations
  - Allocation of duties (With HR students)
  - Work breakdown structure
  - Close out report

## **Tourism:**

You've been asked by TECHSPO to draft up an Events Proposal for them so that they can determine whether or not make use of your services for their event. The following needs to be included into your Events Proposal:

- Title Page
- Table of Contents
- Executive Summary
- Background
- Client's Requirements
- Suggested Suppliers
- Budget
- Event Manager Details
- Contract

### *Example of an Events Proposal*

#### **Title Page**

*This page should include your logo, contract details, the name of the event and a copyright clause to protect our intellectual property in any design or idea you may have produced for this event.*

#### **Table of Contents**

*Create a table of contents in Microsoft Word after you have completed the proposal, as most documents are sent electronically and the contents page makes it look professional and easier for the client to navigate.*

#### **Executive Summary**

*This page (or even half a page) is only filled in after the rest of the proposal has been completed. It should briefly state the objectives, who will meet them, by when and for how much.*

#### **Background**

*Here you include any further details or information you may have obtained by conducting additional research after the first meeting with the client.*

#### **Client Requirements**

*You have to list all of the client's requirements as provided, so that there is not misunderstanding about what you are quoting for. Cover such topics as:*

- *the purpose of the events*
- *the theme of the events*
- *budget and*
- *timing*

#### **Budget**

*Include your preliminary budget in the proposal, with the following sentence included to prevent any confusion:*



*“The accompanying preliminary budget indicates how our resources of R..... have been allocated. Please note that there is a 15% events management fee and a 10% contingency allowance deducted before the budget has been allocated. Note also that all costs exclude VAT”*

**Event Manager Details**

*Here you provide details that would indicate that you are competent to run such an event, including your previous experience and training.*

**Contract**

*The contract can be added at the end of the proposal for signature, making the whole document a binding legal document. In law, a contract must be fair to both parties.*

## IT Cloud Solutions Administrator

### Exit level Outcomes:

A learner will be able to:

1. Use a logical methodology to troubleshoot the common types of hardware and software problems typically encountered in the day-to-day operations of a department in an organisation.
2. Understand the role of technology in the business context.
3. Demonstrate basic application support skills
4. Demonstrate operating system support skills
5. Demonstrate network support skills
6. Relate business problems and information technology solutions
7. Demonstrate appropriate technical reporting skills
8. Demonstrate appropriate customer care in the context of IT support
9. Function appropriately in a change management process within a support team
10. Demonstrate hardware support skills for server computers
11. Demonstrate an understanding of Systems Support contextualised within a selected work area.

### TECHSPO Event hosting system

#### Requirements analysis.

- a) Identify all functional requirements of the project.
- b) Identify all the Technical requirements of the project
- c) Identify all the Architectural requirements of the project
- d) Identify all System requirements of the project
- e) Identify all Human resources requirements of the project and system
- f) Identify the Information Systems flow: Business processes of the project/system
- g) Financial requirements (Pricing)

#### Feasibility of project

1. Conduct a simplified feasibility study of the project
2. Conduct a feasibility study to ascertain project success
- 3.

#### Deliverables (Evidence to be provided)

1. Requirements analysis document: Liaise with all stake holders
2. Feasibility study document: Liaise with all stake holders
3. Hardware requirements document: Liaise with all stake holders
4. Systems requirements document: Liaise with all stake holders
5. Network requirements document: Liaise with all stake holders
6. Business process flow document: Liaise with all stake holders
7. Execution plan document: Liaise with all stake holders
8. **Evidence of execution document**: Liaise with all stake holders

9. Work done (WBS) document for every 30min spent on the project with evidence and signed off by the supervisor
  - a. Job cards created to track work done
10. Evidence of meetings: Liaise with Business Management

### **Project summary**

You are required to achieve the following:

1. Deploy servers to host the event services for the 4IR launch
  - a. These will be on-Premises and in the cloud for the following services:
    1. User management (Active Directory) and (Azure AD) Synchronise users and computers.
    2. Hosting server(s) for Web App: Liaise with software and web design teams
2. Management of access of resources: Liaise with (CISCO)
  1. Network control
  2. Services control
3. Troubleshoot any problems met and document the solutions
4. Deploy and set-up user PCs for accessing resources for the event: Before, During and After

## Software Development (SD): Event Management System

You are required to design an application using **ASP.NET MVC 5** technology and publish the application on Azure that will work with the Techspo website (<https://techspo.co/about/>). Users should first register from the APP to get access to Techspo website. Ensure that the look and feel of Techspo is used on the app (Colour, logo, etc...). Below are included the Application development requirements:

### 1. Log In form

If the user is registered already a single sign option is given to access Techspo website. Use the below example to design your log in form. Ensure that Techspo colour and logo are use on the form.



Figure 1

### 2. Registration form

The registration form should require the following information: Name, cell phone number, and email. Ensure once again that validation is implemented on the form. The following information should be saved to a database on the cloud (Azure) name your database as **UserDetailsdb**.

Figure 2

### 3. Admin option –

Use your own design to create the admin option under the *about* tab. The admin option will be placed under the *about* tab on the log in form. Only people with admin rights will be able to use this option. This option will allow the administrator to view all the people who previously registered on the app to access the Techspo websites, delete users who are abusing the system, and correct users details in case mistakes were made during registration. The Admin also should be able to search registered users from the online database using the user cell phone number or the all option.

#### Sample output- For all users

| Name    | Cell phone number | Country |
|---------|-------------------|---------|
| Isaac   | 0671231065        | UK      |
| Jacques | 0681231065        | SA      |
| Jacob   | 0691291067        | USA     |
| Dlamini | 0691291054        | SA      |

Again, all even should be visible on the admin option in a form of a table. As shown below:

## TECHSPO Technology Expos

- > **TECHSPO Sydney 2021**  
(August 25 – 26, 2021)

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- > **TECHSPO At Sea 2022**  
(March 31 – April 5, 2022)

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- > **TECHSPO New York 2022**  
(April 21 – 22, 2022)

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- > **TECHSPO Vancouver 2022**  
(May 5 – 6, 2022)

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- > **TECHSPO Toronto 2022**  
(May 12 – 13, 2022)

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- > **TECHSPO Houston 2022**  
(May 26 – 27, 2022)

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- > **TECHSPO Silicon Valley 2022**  
(June 2 – 3, 2022)

---

Integrate the social marketing and Facebook promotion on the application. The Seven Phases of the System-Development Life Cycle should be followed in the design of the application:

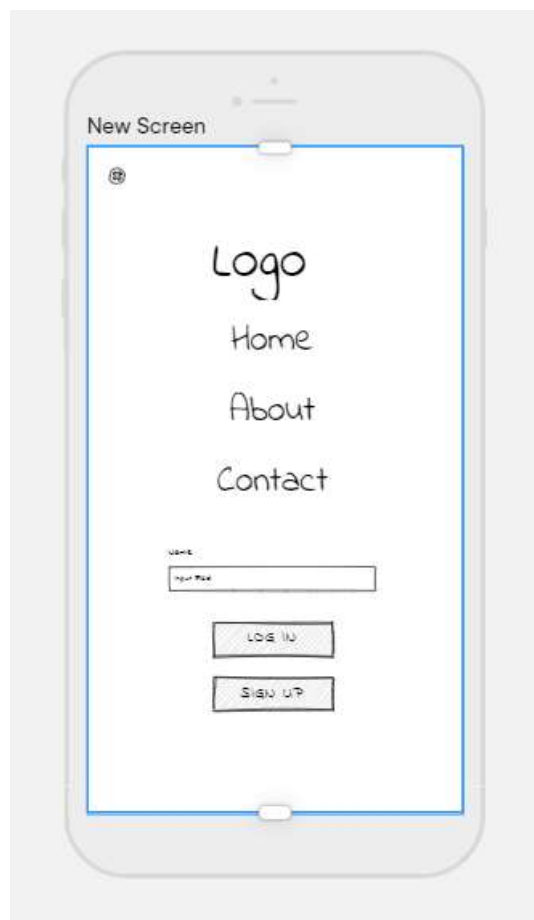
1. Planning. This is the first phase in the systems development process. ...
2. Systems Analysis and Requirements. ...
3. Systems Design. ...
4. Development. ...
5. Integration and Testing. ...
6. Implementation. ...
7. Operations and Maintenance

## Software Development (SD) – App Development: Event Booking System

You are required to design an application using **ASP.NET CORE** technology and publish the application on Azure that will work with the Techspo website (<https://techspo.co/about/>). Users should first register from the APP to get access to Techspo website. Ensure that the look and feel of Techspo is used on the app (Colour, logo, etc...). Below are included the Application development requirements:

### 1. Log In form

If the user is registered already a single sign option is given to access Techspo website. Use the below example to design your log in form. Ensure that Techspo colour and logo are use on the form.



### 1. Registration form

The registration form should require the following information: Name, cell phone number, and email. Ensure that validation is implemented on the form. The following information should be saved to a database on the cloud (Azure) name your database as **UserDetailsdb**.

### 1. Admin option –

Use your own design to create the admin option under the *about* tab. The admin option will be placed under the *about* tab on the log in form. Only people with admin rights will be able to use this option. This option will allow the administrator to view all the people who previously registered on the app to access the Techspo websites, delete users who are abusing the system, and correct users details in case mistakes were made during registration. The Admin also should be able to search registered users from the online database using the user cell phone number or the all option.

#### Sample output- For all users

| Name  | Cell phone number | Country |
|-------|-------------------|---------|
| Isaac | 0671231065        | UK      |



|         |            |     |
|---------|------------|-----|
| Jacques | 0681231065 | SA  |
| Jacob   | 0691291067 | USA |
| Dlamini | 0691291054 | SA  |

Again, all events should be visible on the admin option in a form of a table. As shown below:

### TECHSPO Technology Expos

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> **TECHSPO Silicon Valley 2022**  
(June 2 – 3, 2022)

Integrate the social marketing and Facebook promotion on the application. The Seven Phases of the System-Development Life Cycle should be followed in the design of the application

1. Planning. This is the first phase in the systems development process. ...
2. Systems Analysis and Requirements. ...
3. Systems Design. ...
4. Development. ...
5. Integration and Testing. ...
6. Implementation. ...
7. Operations and Maintenance.

## Software Development (SD) – Game Development: Event Virtual Tour

You are required to develop a game that will provide users with a **virtual tour** of the event using **unity 3D**. The game will have to provide the attendee with a sensation and experience of how the event will be organised. The Phases of the Game Development Life Cycle [GDLC] should be followed in the design of the game:

### Phase 1 - Story/ Idea:

The Story/Idea is the actual game concept fulfilling the requirement of the project. The details pertaining to the story/idea should be discussed in the requirement/project document.

### Phase 2 - Conceptual Analysis:

In context of the story or concept, students need to analyse the project requirements in depth. A feasibility study should be completed before the game development starts. The following aspects need to be analysed:

- Actual Requirements
- Pricing
- Technical Capabilities
- Organizational , Cultural or Legal Issues and Solutions
- Skills and Scope of the project

### Phase 3 - Planning:

Once the requirements are established, students need to proceed to the planning stage. Students are required to create a project plan or blue print of the game. All features, tasks and ideas should be indicated on the planning document. The following steps may assist in the planning process:

- Make list of task (graphics, animations, sounds etc.)
- Time scheduling and estimation of each task
- Create document/chart of the flow of task
- Decide the work flow and test cases & test plans.
- Decide flow of work submission of task
- Taken care about rework and submit final bug free product

### Phase 4 - Team Building:

In order to design and develop the game a team needs to be organized. Team members may include: designers, programmers, testers.

### Phase 5 - Concept Design:

Concept Design refers to the design of a prototype - also called Game Design. Game Design is at the heart of any game/product. Game Design is the proof of the mastery of the craft to bring an idea to a reality. Before starting the development, game designers create one document known as, "Game Design Document (GDD)". The GDD describe all the virtual ideas and design as a blueprint of the game/product. The following are elements of Game Design:

- UI Interface
- Game Data
- Player Data & Characteristics
- Level Design
- Game play & Mechanism
- 3D/2D Game Arena
- Game Objects/Powers/Properties
- Artificial Intelligence
- VFX/Animations
- Sound Music
- Support & Future Enhancements

#### **Phase 6 - Development:**

After completing the GDD, the development of the actual game concept/idea is started described in the Game Design.

#### **Phase 7 - Testing:**

Testing is the mirror of the final product. Testing is the most important part of the GDLC. Testing and game design have the same weight in any game/concept development architecture.

#### **Project submission format**

The students will submit the project in a form of a technical report together with the working application on COLCampus. The submission must be accompanied by a 10 minutes video showcasing how the application is working.

The technical report is a formal report designed to convey technical information in a clear and easily accessible format. It is divided into sections which allow different readers to access different levels of information. A technical report should contain the following sections;

| Section    | Details   |
|------------|---|
| Title page | Must include the title of the report. Reports for assessment, where the word length has been specified, will often also require the summary word count and the main text word count |

|   |   |
|---|---|
| Summary   | A summary of the whole report including important features, results and conclusions   |
| Contents  | Numbers and lists all section and subsection headings with page numbers   |
| Introduction                                      | States the objectives of the report and comments on the way the topic of the report is to be treated. Leads straight into the report itself. Must not be a copy of the introduction in a lab handout. |
| The sections which make up the body of the report | Divided into numbered and headed sections. These sections separate the different main ideas in a logical order  |
| Conclusions                                       | A short, logical summing up of the theme(s) developed in the main text  |
| References  | Details of published sources of material referred to or quoted in the text (including any lecture notes and URL addresses of any websites used.   |

### Assessment rubric:

| <b>Graphic Design:</b>             |   |   |
|------------------------------------|---|---|
| Logo                               | The logo is relevant to the event and is executed in a visually exciting manner   | 5 |
| Banner                             | Banner is designed to encourage user interaction and is visually appealing  | 5 |
| Posters                            | The posters have an innovative design concept and appropriate visual style.   | 5 |
| Web: Prototype                     | Prototype exhibits balance between functionality and visual appeal. There is strong visual consistency with the rest of the campaign  | 5 |
| Signage                            | Signage is legible and is executed to ensure a strong visual cohesion with the rest of the campaign.  | 5 |
| Visual Consistence                 | The campaign demonstrates strong and exciting visual continuity   | 5 |
| <b>CAD:</b>                        |   |   |
| Floor Plan layout: Design sketches | Student submitted two sketches. The quality of sketches submitted is adequate / good.   | 5 |
| Floor Plan                         | The Floor plan layout is of good quality, all renderings has been submitted.  | 5 |
| External Rendered view.            | All required views are rendered / Good quality renderings submitted   | 5 |
| Exhibition stand: Design Sketches  | Student submitted two sketches. The quality of sketches submitted is adequate / good.   | 5 |
| Exhibition stand: Floor Plan       | The Floor plan layout is of good quality, all renderings has been submitted.  | 5 |
| Exhibition stand: section view     | The Section has been created and correctly sheeted  | 5 |
| Exhibition stand: Elevations       | All of the elevations have been created and correctly sheeted   | 5 |
| External Rendered view             | All required views are rendered / Good quality renderings submitted   | 5 |
| Internal Rendered view             | All required views are rendered / Good quality renderings submitted   | 5 |
| Walkthrough video                  | The Walkthrough video is of good quality / It shows good quality detail of the exhibition stand   | 5 |
| 3D Design                          | Good quality 3D presentation.   | 5 |
| <b>Web development:</b>            |   |   |
| Originality (Wireframe and Theme)  | Good, original concept development.   | 5 |
| Visual Appeal Web fonts            | Strong visual impact. The visual style is appropriate, yet innovative.  | 5 |
| Layout                             | Concept is transferred successfully to Dreamweaver. Page accessibility provided. Web safe colours utilised. Accessibility is complete. Dimensions and sizing of elements considered. UI / UX applied correctly. | 5 |
| Recording                          | All recording shown of how the website performs on Google chrome.   | 5 |

|   |  |    |
|---|--|----|
|   | Screenshot provided of how fast the website loads using slow 3G on Google Chrome.  |    |
| Navigation  | Links for navigation are clearly labelled, allow the reader to easily move from a page to related pages (forward and back), and internal links take the reader where s/he expects to go. | 5  |
| Pages   | All pages are correctly structured images and information are added. No mistakes were made on this page  | 5  |
| <b>Project Management</b>                                   |  |    |
| Conduct Effective Communication while working on a project: | Conduct meetings during the duration of the project (at least 4) and record minutes of the meeting   | 5  |
| Conduct Effective Communication while working on a project: | Evidence of communication with other stakeholders  | 5  |
| Conduct Effective Communication while working on a project: | Designing communication Plans  | 5  |
| Plan the project:   | Design and develop a Project plan  | 5  |
| Plan the project:   | Project Scope Statement designed   | 5  |
| Plan the project:   | Project Charter developed  | 5  |
| Plan the project:   | WBS  | 5  |
| Plan the project:   | Risk Management Plan   | 5  |
| Plan the project:   | Procurement Plan   | 5  |
| Plan the project:   | Schedule of the project designed   | 5  |
| Execute and Control the project                             | Reports meant to control the project (eg Progress reports)   | 5  |
| Execute and Control the project                             | Allocation of duties/roles in teams  | 5  |
| Execute and Control the project                             | Close out Report   | 5  |
| <b>Financial Accounting</b>                                 |  |    |
| Budget planning   | Good to excellent budget planning is shown   | 5  |
| Cost projections  | Preliminary work presented clearly demonstrates the understanding of costing principles.   | 5  |
| Budgets   | Budget is substantiated with good budget principles  | 5  |
| Procurement   | Procurement of all of the materials was done professionally and is of good quality.  | 5  |
| <b>Tourism</b>  |  |    |
| Content and Discussion                                      | Major points are stated clearly and are well supported   | 10 |
| Organisation & Structure                                    | Executive Summary covers are major points<br>Structure is easy to follow and read<br>Document is presented in an extremely professional manner.  | 5  |
| <b>IT Cloud Solution Administration</b>                     |  |    |

|   |   |   |
|---|---|---|
| Phase item 1                                      | Requirements analysis document <ul style="list-style-type: none"> <li>Listing all possible requirements</li> </ul>                              | 5 |
| Phase item 2                                      | Feasibility study document <ul style="list-style-type: none"> <li>Listing the possibility of achieving the objectives of the project</li> </ul> | 5 |
| Phase item 3                                      | Hardware requirements document<br>Listing All possible hardware and requirements on-premises and cloud based                                    | 5 |
| Phase item 4                                      | Systems requirements document<br>Listing all possible requirements  | 5 |
| Phase item 5                                      | Network requirements document <ul style="list-style-type: none"> <li>Listing all possible requirements</li> </ul>                               | 5 |
| Phase item 6                                      | Business process flow document <ul style="list-style-type: none"> <li>A process flow diagram and description included</li> </ul>                | 5 |
| Phase item 7                                      | Execution plan document   | 5 |
| Phase item 8                                      | Work break Down Structure   | 5 |
| Phase item 9                                      | Job cards indicating actual work done   | 5 |
| Phase item 10                                     | Meeting Minutes   | 5 |
| Phase item 11                                     | Deployment Diagram  | 5 |
| Phase item 12                                     | Security documentation  | 5 |
| Phase item 13                                     | Problem maintenance logs  | 5 |
| <b>Software Development &amp; App Development</b> |   |   |
| Structure   | Title page  | 5 |
|   | Summary   | 5 |
|   | Table of Contents   | 5 |
|   | Introduction  | 5 |
| Body of report                                    | Planning.   | 5 |
|   | Systems Analysis and Requirements.  | 5 |
|   | Systems Design.   | 5 |
|   | Development.  | 5 |
|   | Integration and Testing.  | 5 |
|   | Implementation.   | 5 |
|   | Operations and Maintenance.   | 5 |
|   | Conclusion  | 5 |
| <b>Game Development</b>                           |   |   |

|                   |                     |   |
|-------------------|---------------------|---|
| Structure         | Title page          | 5 |
|                   | Summary             | 5 |
|                   | Table of Contents   | 5 |
|                   | Introduction        | 5 |
|                   | Conclusion          | 5 |
| Phase 1           | Story/ Idea         | 5 |
| Phase 2           | Conceptual Analysis | 5 |
| Phase 3           | Planning            | 5 |
| Phase 4           | Team Building       | 5 |
| Phase 5           | Concept Design      | 5 |
| Phase 6           | Development         | 5 |
| Phase 7           | Testing             | 5 |
| <b>Total: 400</b> |                     |   |