

Semester 1 2023 FIT 5057

Assignment 2 and 3 Briefs



Source: Times Magazine, 2022

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Disclaimer: The information contained in this case study is to provide an imagined case story for formative teaching and assessment purposes. The case information is both factual and fictional. Contents formulated by the author are intended to stimulate class engagement and problem solving using project management paradigms and methods, which also involves the application of critical thinking techniques.

Unit Learning Outcomes

By doing the two group assignments, students will develop competencies in the following capability areas:

Unit Learning Outcome	
• Apply the 10 Project Management Body of Knowledge (PMBOK) areas to modern IT projects;	Yes
• Create IT project governance & compliance frameworks needed to manage modern IT projects;	Yes
• Recommend project management and critical thinking strategies and techniques for modern IT projects;	Yes
• Create a collaborative ICT project plan using the PMBOK areas for a given case-study;	Yes
• Apply collaborative strategies to support effective teamwork in modern IT projects.	Yes

Underpinning the development of these FIT5057 learning capabilities are composing skills that constitute your employability and hard Project Management (PM) capabilities. The employability skills are critical research, reading, thinking and writing; and soft skills like teamwork and management reporting writing.

Linking Assignment 1 to Group Assignment 2 and 3 (and 4)

Through Assignment 1, you would have developed (at post-graduate competency level) the following [employability skill-areas](#):

1. Apply **literature research and critical reading techniques** to: (a) find, read and understand what relevant and trusted literature information to select for assignment work; (b) use APA style to cite references that validate your ideas and document a reference list correctly.
2. Know and use the appropriate **critical thinking techniques**, together with the application know-how of **PM knowledge-concepts and methods** in different problem-solving contexts. Assignment 1 involves inquiry based problem solving, assignment 2/3 deals with PM linked case based problem solving and assignment 4 uses reflective thinking methods as an overarching overlay to solve any types of greenfield problem solving. Because this unit is about project management, all the assignments have a PM theme.
3. Applying **management writing styles, advanced colleague writing¹ and including paragraphing techniques** in problem solving genre constructs, to communicate effectively how you formulate and conclude a solution to given problems. Report templates, integrating the appropriate problem-solving genres are given. Writing instructions are also given, to help you self-realise management writing styles and configuring content-constructs that are easy to read, understand and follow your problem solving logic in detail.

¹ Example <https://www.monash.edu/learnhg/excel-at-writing/improve-your-writing/master-academic-language>

Team Collaboration Skills are the abilities to “to work effectively with others on a common task; taking actions which respect the needs and contributions of others; contributing to and accepting the consensus; negotiating a win-win solution to achieve the objectives of the team” ([University of Strathclyde, 2023](#)). Through Assignment 2/3 group work, you will self-learn the soft skills of collaborative team play in on-site and virtual (hybrid) work environments.

There are the soft and hard aspects of team collaboration skills learning.

Soft team collaboration skills development is about training your behaviours towards:

1. Building and Maintaining Positive Relationships, by
 - Giving and receiving feedback from peers or other team members in order to perform the task.
 - Sharing credit for good ideas with others.
 - Acknowledging others' skill, experience, creativity, and contributions.
 - Listening to and acknowledge the feelings, concerns, opinions, and ideas of others.
 - Expanding on the ideas of a peer or team member.
 - Stating personal opinions and areas of disagreement tactfully.
 - Listening patiently to others in conflict situations.
 - Defining problems in a non-threatening manner.
 - Supporting group decisions even if not in total agreement.
2. Achieving the task, by
 - Giving and seeking input from others (in formulating plans for recommendations).
 - Assisting others in solving problems and achieving own goals.
 - Sharing information, ideas, and suggestions.
 - Asking for help in identifying and achieving goals and solving problems.
 - Checking for agreement and gaining commitment to shared goals.
 - Notifying others of changes or problems in a timely manner.
 - Making procedural suggestions to encourage progress towards goals.
 - Checking for understanding.
 - Negotiating to achieve a "win-win" outcome.
 - Explicitly exercising time management of your work.

Hard team collaboration skills development is about using MS Team, as a virtual work environment, to do assignment work. The hard skills is the know-how in using MS Team's:

- **Communication and information repository functions and features** to show traceability of assignment progress discussions, meetings and working papers, and also consult-interactions and issues co-management with your supervisor.
- **Work Tracker** app to plan your assignment work schedules, assign people roles and report progress and delays; and backup your group assignment stand-up meeting reports.
- **Issue Tracker** app to record and manage group issues in a proactive manner and provide all issues information openly if you need to request your Supervisor to intervene in a timely manner and co-manage with you these officiated issues.

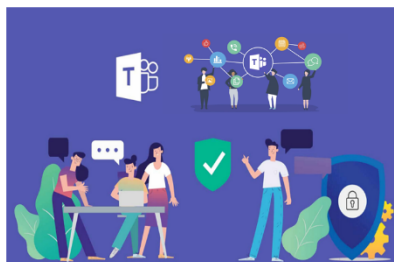


Group problems arise because some individuals did not foster the right behaviours, resulting in angry disagreements, personally attacking complaints about peers and even supervisors, escalating group conflict complexity, etc. When students do not notify their supervisors early, these behaviour problems cannot be fixed effectively prior to submissions. Using MS Team can help to proactively prevent and mitigate these people issues, however on the provision that group members use the tool effectively. A common pattern we have observed in past semesters is that less diligent students get caught in these behavioural matters and not using MS Team effectively, hence consequently struggle and are highly stressed out nearing assignment deadlines.

Collaborative learning and team work will only be effective if you take ownership of your learning, however aided by your supervisor and sometimes other facilitating staff. **Taking ownership of one's learning means:**

1. Coming to classes prepared with prior recommended readings, work-in-progress assignment working papers for Q&A discussions.
2. Actively and effectively participating in class activities and asking questions.
3. Maximising class time to complete scheduled assignment sections with your group members as much as possible.
4. Using MS Team as your virtual work environment, during and after classes, to collaborate with your group-peers and consult with your supervisor with a common goal of making timely process in your assignment work.
5. Regularly interact with your supervisor and be proactive in detecting and addressing any learning problems relating to both your group and personal circumstances. You must be self-motivated to engage with all teachers and students in and outside class. When you form a group, a supervisor will be assigned. The supervisor will monitor and evaluate everyone's participation and contributions. MS Team leaves a transparent trail of everyone's participation and contributions in groupwork, and together with MS Team data analytics, your supervisor can use as transparent evidence to assess your team and individual performance and contributions' quality.

Group Participation



Your supervisor will observe and assess every team member's performance, such as:

1. Completing scheduled knowledge evaluation tests
2. Committing to weekly MS Team based work interactions with peers & supervisor
3. Showing self drive in detecting and resolving group issues & conflicts in a proactive manner and with little to no intervention
4. Showing evidence of effective assignment work progress
5. Showing evidence of effective time management
6. Participating in assignment progress management, like stand-up meetings, using MS Team Work and Issues tracker and other suitable apps.

which will contribute to your group assignments' marks

Case Study Assessment Approach

Case Study Purpose

It is important to understand what a case study is and how it frames your group assignment work.

*A case study requires you to **analyse a specific situation and discuss how its different elements relate to theory**. The case can refer to **a real-life or hypothetical** event, organisation, individual or group of people and/or issue. Depending upon your assignment, you will be asked to develop solutions to problems or recommendations for future action.*

(Monash University, 2022)

Case study artefacts that are used in both academic education and professional training include:

1. A real-life or hypothetical story about an enterprise or a community, describing the actors, events and situational drivers prevailing in the story-telling.
2. A given problem solving challenge, which one needs to identify and apply the relevant theories and methods being studied in the problem solving process.

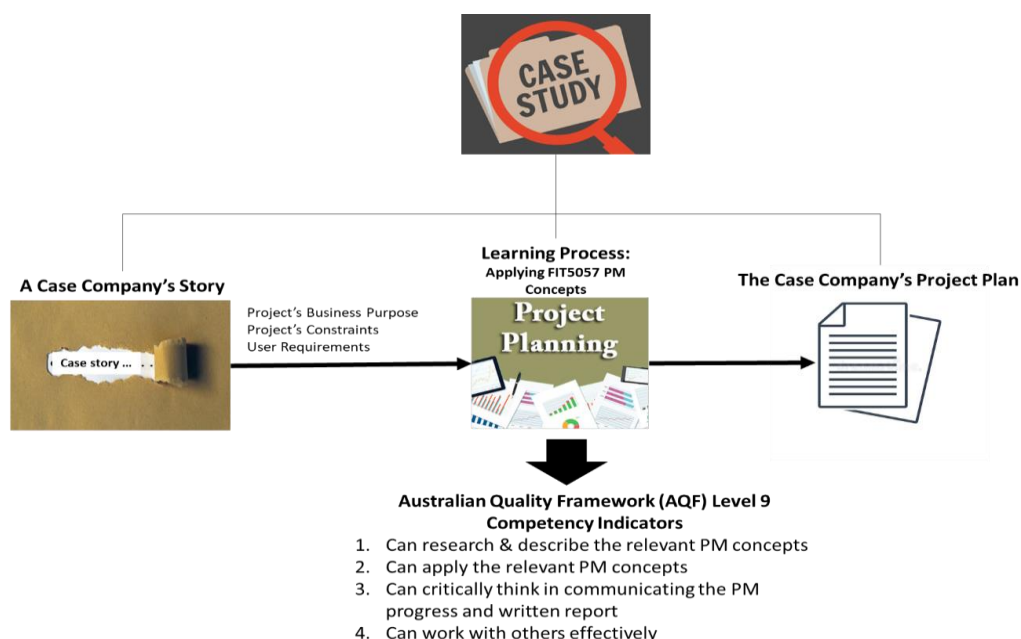
In some units, students are expected to write the case story, identify a problem to be solved by using the concepts and methods they are studying. Fortunately for you, this is not the case in FIT5057. Each assignment defines a problem, sometimes a simple one, other times a more complex problem.

FIT5057 Case Study

In FIT5057, the case story is given to you. It usually relates to a real organisation. The problem is defined in the story; however you need to identify it and summarise it as a problem statement that gives organisational or business focus in your problem-solving work.

The problem solving process requires you to identify and apply the appropriate PM concepts and methods, together with the appropriate literature research, critical thinking and management report writing techniques and your capacity to work collaborative with your peers and supervisor; and sometimes other students and staff.

The assignments' marking sheets are designed to check traceability of these knowledge and capability areas through several assessment criteria. These assessment criteria also increase consistency in marking judgement / decision-making.



Teamplay Assessment

In addition to assessing your submitted papers, your supervisor will also monitor, observe and assess the quality and frequency of your social learning interactions and contributions in developing the case's project plan. Your supervisor will monitor and assess the following performance drivers:

1. Your on-time MS Team traceable contributions to progressing assignment work
2. Your workshop and applied class attendance histories
3. The quality and frequency of your consult / MS team engagement activities and during and outside classes, including using MS work tracker and taking turns to report quick but relevantly informative stand-by work progress status
4. The degree of pre-class preparation and active participation
5. How well you contribute to *proactively* identifying and managing group risks with least or no supervisor interventions, including using MS Team Issues tracker to record and resolve detected issues a timely and effective manner.
6. Your displays of developing soft skills in team collaboration, mentioned earlier.

Next, we present the Case Story.

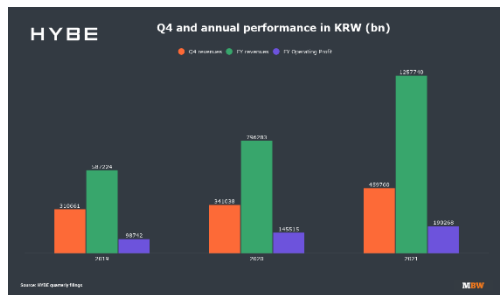
The BTS/Hybe Case Story

Company Introduction

Hybe Corporation is the company that orchestrated the international success of BTS, a K-pop group of seven artists who also wrote some of their own music scores. It started as a very small company, nearly went bankrupt – for more of this company's history, [click here to find out](#).



Hybe has successfully used social media, storytelling and multimedia contents creation to expand the promotion and marketing scope of BTS's music creations and fans outreach. This has drastically increased sales of their music products worldwide. In Oct 2020, Hybe became publicly listed, increasing the wealth of its founder and BTS artists overnight. Hybe is continuing to maximise and extend the international success of BTS through another world tour (the fifth one), that commenced in March 2022 in Seoul. It is interesting to note that Covid-19 lockdowns in 2020 did not impair BTS's fourth world tour, which started in Seoul in Oct 2021 and continued with four concerts in Los Angeles, USA. The sold-out October Seoul concert was, in fact, cancelled because of Covid-19 lockdown however it was replaced by a live streaming concert without on-site audience. The virtual concert surprisingly and drastically increased revenue by more than was originally planned. In Nov/Dec 2021, BTS went to the USA and successfully delivered the four concerts with all tickets sold out. The last concert was live streamed allowing more than 25 million international fans to watch the live streaming and the delayed version one week later. In 2022, BTA's worldwide fame continued to soar, demonstrated by their receiving Billboard and other music awards, and the Las Vegas concerts - including live-streams - rapidly being sold out.



Latest Company Developments

South Korea's military conscriptions require the BTS idols to take leave of absence (ie hiatus) for the next 2+ years, starting with the eldest member, Jin. The remaining members are experimenting with their solo endeavours, while some will also serve their military obligations in months to come. In 2025 all group members will return as a group, opening the next chapter of their fame. Meanwhile, Hybe has been focusing on its other labels, promoting and internationalising them, in similar paths BTS has journeyed.

In Feb 2023, Hybe finalised its 14% purchase (estimated (\$172.8 million) of SM Entertainment shares, making it the largest shareholder, with significant influence on the company. SM Entertainment is Korea's largest multinational power house in the K-pop industry, much bigger than Hybe. The decision to take over SM Entertainment was a result of SM Entertainment founder (Lee Soo Man) and largest shareholder, deciding to sell his shares to mitigate some family feud driven corporate politics instigated by his nephew, one of the 2 co-CEOs of the company. Hybe communicated publicly that it will not rationalise and merge SM Entertainment operations into its own. This announcement was to mitigate the allegations by SM Entertainment co-CEOs and their allies ([Kakao](#) and [Align Partners](#)) that the acquisition is a hostile takeover and would result in creating monopoly in the K-pop industry; hoping to influence the Korean Financial Supervisory Service regulators to disapprove Hybe's shares acquisition. Hybe also intends to buy another 25% of shares from SM Entertainment minority shareholders. At the same time Hybe announced its America office also just acquired Atlanta rap powerhouse QC Media Holdings or [Quality Control](#), a

US-headquartered record label and artist management company and home to acts such as Lil Baby, Migos, Lil Yachty and City Girls. This deal was estimated to be US\$320 million, meaning that Hybe had spent over **US\$600 million** in just one week. ([Bloomberg, 2023](#), [Reuters, 2023](#), [McDonald, 2023](#), [Kim, 2023](#), [Lee, Kim and Kang, 2023](#); [Stassen, 2023](#); [Lee, 2023](#)). SM Entertainment and Hybe's share prices shot up significantly despite these corporate battles.

Shares Pop

SM Entertainment shares soared about 50% this year



([Bloomberg, 2023](#))

Hybe's Digital Strategies

Hybe's Product Lines

K-pop groups are managed and marketed as branded products called labels. As a business strategy focusing on extending the [product lifecycle](#) of the BTS label, Hybe is continuing to invest more in technology to grow and sustain BTS success.



Becoming a Music Technology Company:

Hybe's business success to date is still highly hinged on the continuing success of its BTS-label, whose IP-resources and fandom are the [core competencies](#), critical as building blocks, for developing Hybe's digital service capabilities. Since BTS was conceived in 2010 (Seoul Space, 2022), Hybe experimented with many technologies. Its current portfolios of digital business strategies include (Judy Knows, 2020; Hybe, 2022; Koreaboo, 2021; Jae-heun, 2022; Stassen, 2022; Cirisano, 2022; Meta For Media, 2022):

- providing a common Weverse platform to connect all its K-pop labels and fans in accessing their artists' creative IP-resources (notably their music tracks and music-videos), merchandise sales, news-updates, concert sales, etc and engaging artists with fans in social media interactions, including live-streaming communications between artists and fans, and among fans. A key digital goal of fandom engagement is to cultivate and maintain fan loyalty, consequently helping to sustain the fame and stardoms of Hybe's K-pop artists.

- acquiring its own live-streaming, NFT-exchange, metaverse, AI voice generator (Supertone) and other technologies to not just improve enterprise **efficiency in distributing K-pop IP-resources** and service-experiences, but also increasing their K-pop artists' geographic outreach to their fans and enable scalable group to solo capacities to personalise artist/fan engagement experiences.

NFT Strategy

A top digitalisation priority is using non fungible tokens (NFT) technology to **mint BTS and other K-pop labels' intellectual property (IP) resources** - notably their music tracks, videos, autographs, voice recording, etc - to generate new income streams.

NFT 101 Basics

NFT is a blockchain technology capability that is used as system components for creating new secured digital business services or applications (apps). **Non-fungible** implies uniqueness that cannot be duplicated and **token** refers to the notion of blockchain token that is a digital asset stored securely in a blockchain ledger (Clark, 2022). NFT processing and uses are governed by a set of asset management rules encoded in a smart contract (Clarke-Potter, 2020).



Simply put, an NFT is a technical blockchain core competency that can potentially be embedded in many different business system applications. In a commercial sense, an NFT is a physical or virtual asset that is governed by agreed access, rights and use management rules, which are coded in blockchain [smart contracts](#) governing different NFT-linked transactions.

Hybe NFT Strategy Scope

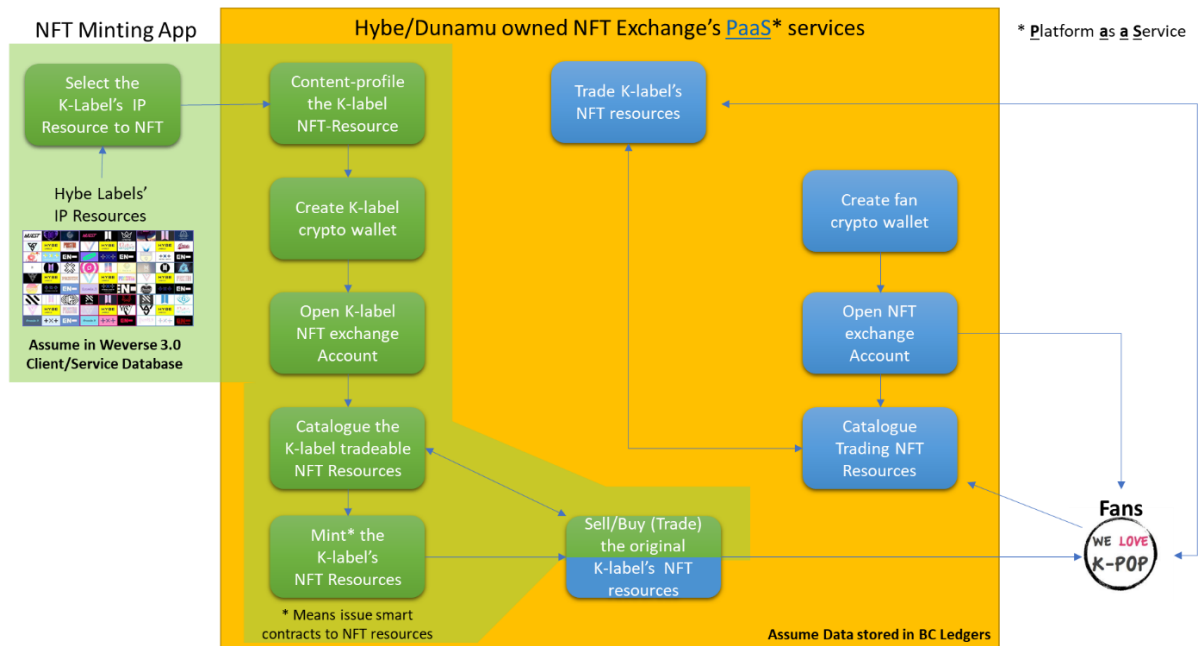
A synopsis of Hybe's NFT strategies is as follows:

- Hybe has partnered with Dunamu (operator of South Korea's largest crypto exchange, UpBit) to access an international NFT trading platform (Bread, 2021) provided by [Levvels Inc \(Synder, 2022\)](#). The third party NFT platform is MOMENTICA, specialising on fan-artist engagement, alleged to be built on sustainable blockchain technology ([Levvels, 2022](#)).
- The target application is tradeable NFT minted K-pop artists' photo-cards and there are future plans to include athlete photo-cards and other metaverse virtual assets (such as webtoon and video-games entities);
- NFT trading helps to secure Hybe's public financial worth in not just the Korean Stock Exchange, but also the Exchange Traded Fund (ETF) investment funds markets, via Samsung Metaverse ETF funds, which has been listed in the US Nasdaq exchange since 22 Dec 2021 (Nasdaq, 2021).

The imagined case storyline is that Hybe implemented these NFT strategies through a [greenfield](#) project in 2022, requiring several phases to rollout:

2022 Phase 1: A proof of concept program was recently completed to deploy NFT minted BTS music tracks and videos as trading commodities through 2 projects. Project 1 delivered part of a system app to NFT mint BTS IP-resources and release newly issued NFT resources for trading. Project 2 completed the NFT trading functionalities. The PoC system was enhanced to operate as a live platform NFT system, providing not just BTS NFTs, but those of other Hype K-pop labels.

The current live NFT system provides the following system functions (see Appendix 1 for short descriptions):



2023 Phase 2: As Hybe increases its internalisation of its K-pop labels, it also wants to comply with international business best practice standards. One of which, is demonstrating its Environmental, Sustainability and Governance (ESG)'s responsibilities, compliant to the United Nation's 17 Sustainability Development Goals.

Additionally, **BTS fans are also ESG minded**. BTS fan-communities (aka fandoms) are called ARMY. Unlike traditional fan clubs idolising their pop artists, BTS fans operate community projects and engage in philanthropic campaigns that align with BTS's advocacy interests and contributions on universal issues such as discrimination, youth mental health and life struggles, violence against children etc. Some of these projects also raise funds and receive donations from both BTS and fans to address these local and global youth issues. **The demographic profile of BTS fans is predominately adult, a majority nearing or in their thirties, and inter-generational.**

Hybe's senior Enterprise Architects (who also play the role of corporate IT strategists) recommended that future Hybe's ESG responsibilities can be implemented in the new NFT platform services. The conceptual functional and non-functional requirements is provided in a later section below.

The **ESG enabling NFT services** will make Hybe more ESG responsive internationally. The recent leadership politics in SM Entertainment is also about governance. Hence the present timing is most right in announcing this **ESG enabling project and increase Hybe's branding back in Korea and internationally.**

What is ESG?

Environmental, social and governance (ESG) refers to a set or framework of compliance-standards, which an organisation adopts and practises to demonstrate publicly its commitment to **environmental sustainability, social responsibility and good governance in both its strategic and operational pursuits.**

ESG compliant organisations often apply best practices, such as the **United Nation's seventeen Sustainability Development Goals** (SDGs); the [Global Reporting Initiative](#) standards, etc.

Hybe will contextualise its ESG responsibilities with the United Nation's global governance framework of 17 SDG themed principles for guiding all nations to develop in sustainable ways, specifically to improve health and education, reduce inequality, and spur economic growth while also addressing climate change and preserving the environment ([United Nations, 2022](#)). How these SDG themed principles translate to national laws or regulations; and enterprises' sustainability policies and good practice adoptions is up to governments or countries' enterprises.

Being an rapidly growing internationalising multinational, Hybe has plans to expand its corporate, ICT and project governance frameworks to include new SDG compliant sustainability principles, policies and development guidelines.



UNIVERSITY OF SASKATCHEWAN SUSTAINABLE DEVELOPMENT GOALS un.org/sustainabledevelopment/

Functional Requirements

Hybe chose one ESG strategy, which involves its K-pop idols being ambassadors for partnering charity firms, whose projects subscribed to several SDG goals. Examples are [ChildFund Korea](#) and [Black Lives Matter](#), etc ([Cho, 2022](#)).

Hybe Enterprise Architects has chosen this ESG strategy, to be transformed into creating its new ESG-NFT services, which essentially will require modifying the smart-contracts of the NFT system's new NFT issue and trading transactions to have:

- Hybe contribute 2% of the NFT transaction settlement amount to the transacting fans' chosen charities' projects supported by BTS and other K-pop labels.
- Fans contribute 2% of the NFT transaction settlement amount and optionally more to their chosen charities' projects.

These modified smart contracts will interface with new system services you will have to develop and whose functional specifications include:

1. Allowing authorised Hybe staff and K-pop members to add legitimate Korean and international charities and endorsed projects for receiving contributions initiated by NFT trading transactions; and setup their NFT exchange accounts for receiving donations.
2. Linking to online project communication websites of charity institutions, providing project progress information using dashboards, multimedia stories and Weverse social media for fans, charity organisations and occasionally the K-pop idols.
3. Linking to a cybersecurity education service for users, to learn how to detect and report social engineering and malware injection schemes in order to use the ESG enabled NFT system safely.

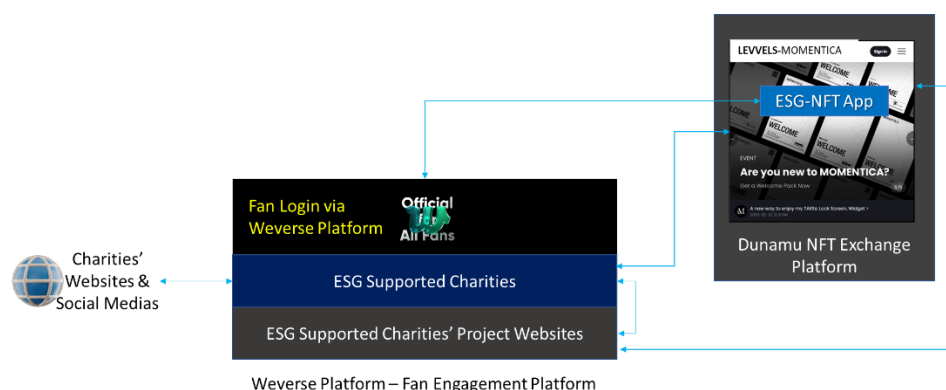
Non-Functional Requirements

These include:

1. Fans logging into their Weverse accounts and from them can access the Weverse-websites of charities and the associated projects that K-pop idols and they already support. They will see **dashboard views of their accumulated contribution against each charity's project's deliverables and % complete information.**
2. In these charities' websites, fans can click on their contributions or project deliverables to land on the charity's project website-page to view more progress information and multimedia stories and engage in Weverse social media communications.
3. Having icons on projects' pages to allow fans view their contributions to projects.
4. Weverse login authentication and other malware detection capabilities. The login authentication also detects each user's country of residence, to ensure a user's legal eligibility to transact NFT as not all countries permit cryptocurrency transactions (for a 2022 list see <https://money.com/cryptocurrency-legal-status-by-country/>).

System Interoperability Requirements

1. All NFT users must have a Weverse account to access the new ESG-NFT application, which is already integrated into Level's Momentica, Dunamu's NFT Blockchain processing system. This system interfaces with Dunamu's exchange platform that settles all NFT payments among NFT parties implicated in NFT transactions.
2. Charities' landing pages reside in the Weverse platform, each one providing each charity's catalogue of projects and having capabilities to link to:
 - a. The charities' own websites and social media channels; and
 - b. Their projects' websites, whose contents are digitally updated to communicate the latest progress information.



Conceptual Architecture Modelling Requirements

Hybe Enterprise Architects delegate to you to perform the following:

1. Provide the business capability (process) model, in the same format of the 2022 phase 1 version. This process model will show the modified existing NFT functions and dataflows to the new online project communication functions.
2. Conceptualise the data model from this process model and guesstimate the number of screens (graphic user interfaces or GUIs) for User experience modelling.

They will review this architecture information and when approved, you can use it to scope a project plan for the extending the NFT system to provide new ESG capabilities and linking to ESG-project communication services.

Hype Personnel

The following people (see photographs below) are the senior key stakeholders in your project.

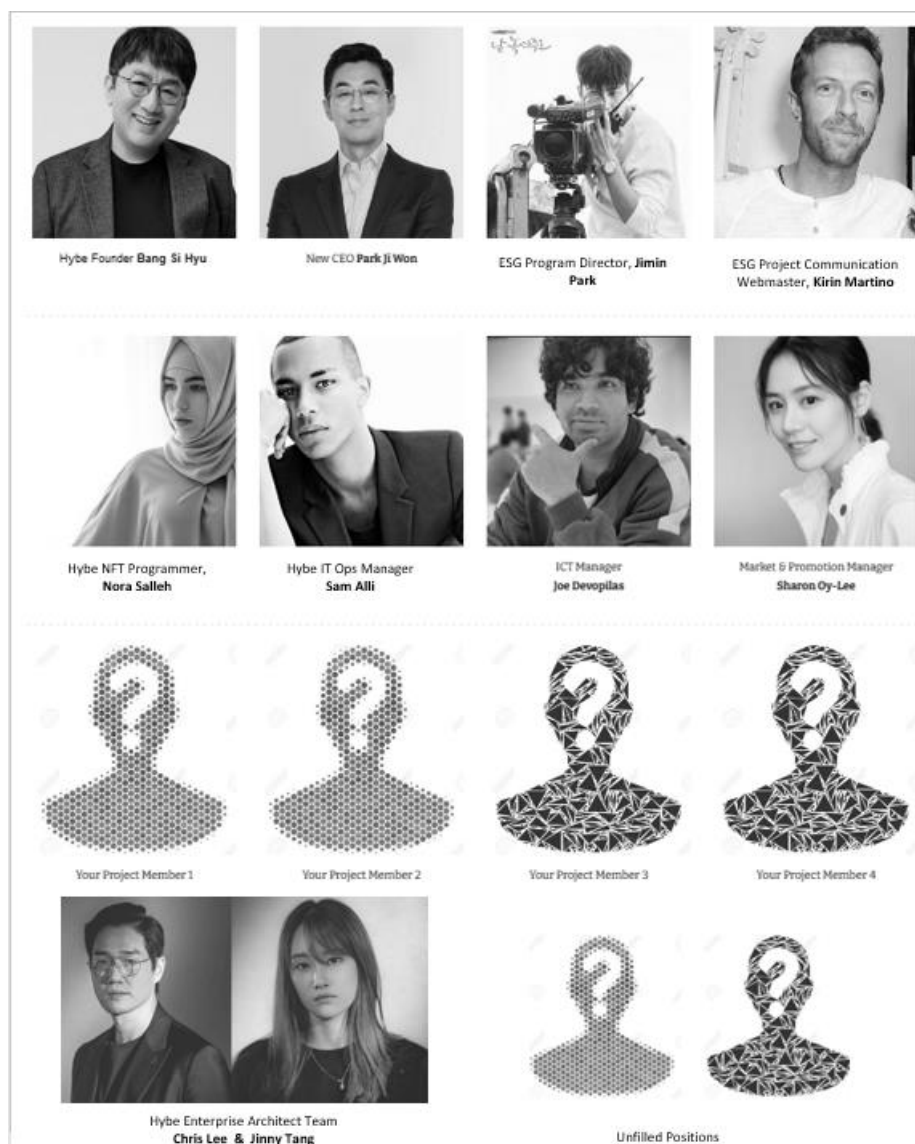
You will determine the team structure of your project and identify the project owner.

The Founder and CEO are the financial sponsors and they will not get involved in the day to day matters of your project.

The project sponsors are the Bang Si Hyu and Park Ji Won. The ESG-product owner, also program manager, is Jimin Park. Three of Hybe IT personnel, together with 2 Enterprise Architects are assigned to the project. Kirin Martino will lead the user experience and contents design of the project communication service, and Sharon Oy-Lee is a business user assigned to assist in gathering user requirements, help bring in more Hybe business users if required, and in charge of user acceptance testing.

Because of the tight deadline, if you need more staff with specialized expertise you can advise the Hybe managers and they will help allocate the right people to your project. Alternatively, you can choose to recruit externally. All labour costs, including in-house staff, are to be expensed by the project.

Typically in any project, there are direct and indirect stakeholders. You can assume BTS and their ARMY fans will be the indirect stakeholders and the direct key project stakeholders are as follows:



You can use this Myer Briggs archetype profiling resource (<https://www.16personalities.com/personality-types>) to help you to assume the personas of each stakeholder, which will help you assess each stakeholder's influence on the project. This persona mapping tool:

- is useful when you identify and analyse the power, interests and impacts of stakeholders on your project.
- gives insights into formulating the appropriate engagement and communication techniques for managing the stakeholders who impact and are affected by your project.

As for your own team members, we recommend that you take the test to find out your own persona-archetypes.

ESG Project Planning Directive

Hybe has decided to delegate the development of its phase 2's NFT linked ESG services to your group. You are to manage the project, under the directives of Hybe's Enterprise Architects. They are acting as Hybe's ICT governance overseers who will provide you the high level functional and non-functional requirements for product scoping and will audit your team's work to ensure they follow their or your conceptual design models they would approve. They can accommodate changes in their models or new ones, but these changes must undergo reporting and approval processes aligned to the Change Management system you will provide. Once the EA directed design models are approved, only then your team can develop the ESG enabling NFT app.

It is expected that you will apply Agile Scrum as the project SDLC methodology for integrating digital ESG capabilities into the NFT platform services.

Project constraints:

- The total budget allocated is US\$600K, covering all expenses, including the pro-rata costs of Hybe's full time personnel.
- The project must deliver by 1st August 2023.
- The product scope is visually contained in your business capability and conceptual data models and estimated number of screens, which Hybe Architects will sign off. The associated project scope must be a sprinted WBS model.

You can assume that upon receipt of your project plan, Hybe executives will decide to accept it or not. In the event they do, the **project can start as early from 1st Apr 2023**.

Project team membership will be made up of:

1. All your FIT5057 team members, playing project management and other development roles. Project management roles can be shared among your Moodle-group members or be allocated to one member – the choice is yours.
2. The appropriate named persons listed as Hybe personnel that you would select for active development roles.
3. New people, yet to be recruited for playing specific development roles you have identified and require onboarding at the start or during early project execution

All known personnel must have their archetype-personas defined, excluding vacant positions.

Training can extend into the first 1-2 months of the project.

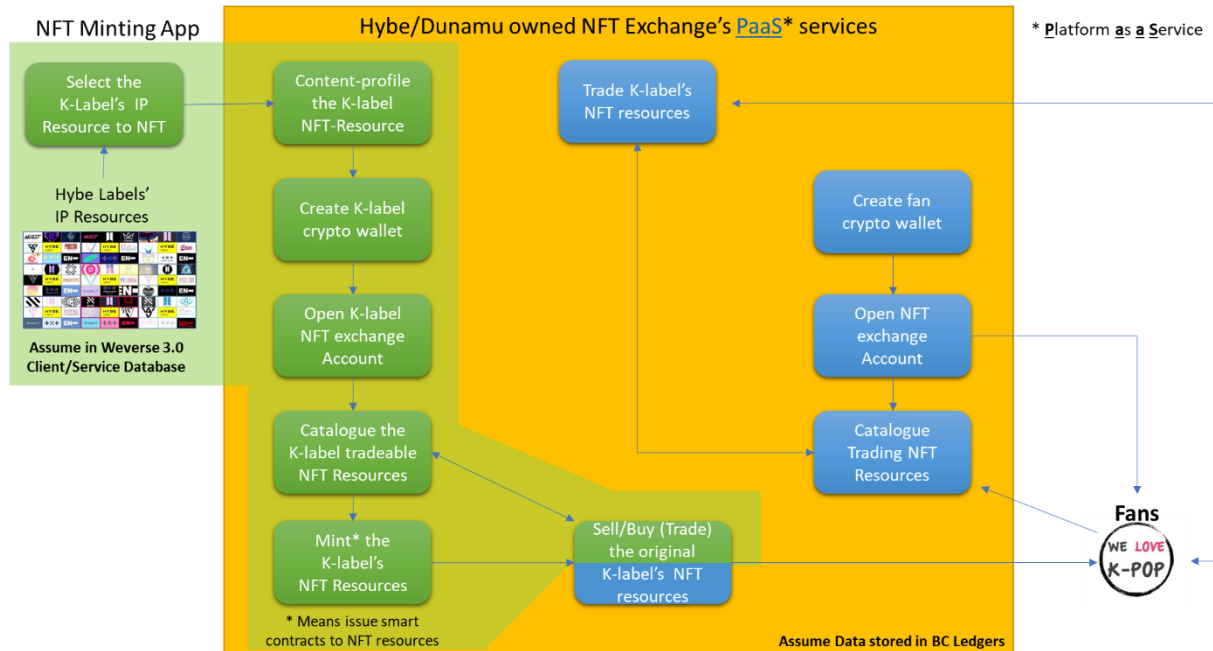
As phase 1 already setup the development and production servers' configurations, you will need to indicate in your project plan the server re-configuration work needed in the 2 servers, as part of the operations aspect of the project's DevOps activities.

----- End of Case Study -----

Appendix 1

NFT Platform's Functional Requirements:

In 2022, Hybe outsourced to FIT5057 developers to build its NFT Platform services, now in operations. A functional overview of the existing system, provided by Hybe's Enterprise Architects, is as follows:



Project 1 Functional Scope:

Select K-label IP Resources to NFT mint

This capability allows Hybe NFT operators to select the K-pop label's IP resources (photos, music albums, videos) from the Weverse client/service databases, to prepare for NFT minting and initial offer release for fans to purchase the minted NFT resources.

Create the K-label NFT-Resources to be NFT minted

The NFT contents of each L-label resource needs to be specified. You can assume the emerging data elements for profiling NFT resources when they are created.

Name: Name of the original creative (IP resource) or editioned copies

Main Content: Characterising text or image description of the resource, its virtual format and size, etc;

Preview Content: If the resource is not an image, say an audio file, a preview is an playable snippet of say, the wav file. This attribute can be blank if not applicable;

Traits: Can indicate copy edition number; where the unlockable content is; provide copyright or trademark notice, mention of perks for highest bids etc;

Perks: List of additional items or experiences that a winning bidder is awarded, or any special benefits to purchases of original or editioned copies etc;

Physical Items: An NFT resource can be associated with a physical asset, in which case details about the physical asset, unique identifier and sited location etc;

Unlockable Contents: Is additional content (text, image, audio, video, etc) that only the NFT-owner can see or access - access instructions are usually provided;

Ongoing Royalty: Each time an NFT minted resource is sold, the creator receives an ongoing predefined royalty which is paid automatically into the creator's crypto-wallet;

Supply: Indicate the number of copies of the original resource. Recommends to default to 1 to simplify the NFT creation process;

External Link: Link to a website with more details about the NFT resource e.g. an underpinning story, with full video watching etc.

Create the K-label NFT-Exchange Wallet

This is a Hybe owned (cryptocurrency) wallet for each of its labels - for settling money payments with fans and other parties buying newly or trading minted NFT resources.

Open K-label NFT Exchange Account

This is linking all the Hybe's wallets to its Dunamu partner's NFT exchange's trading account.

Catalogue the K-label Tradeable NFT Resources

Cataloguing the newly minted NFT resources so that they can be easily accessed based on varying end-user selection criteria, to associate specific smart contracts to specified sets of (i.e. minting) new NFT resources.

Mint the original K-label NFT Resources

Smart contracts specify the specific legal terms and conditions for owning, using and trading minted NFT resources. Newly issued

NFT resources are assigned to specified smart contracts before they are first offered to the NFT marketplace in the Danumu's NFT exchange platform.

Project 2 Functional Scope:

Sell/buy (Trade) the Original K-label's NFT resources

When a new NFT is issued, it is offered, for the first time, to be sold to fans. Hybe has the option to re-purchase (buy back) NFT resources owned by fans, to decommission NFT resources or other reasons. **The smart contract will be changed to support Hybe's donation support to selected charities' ESG linked projects**

Trade K-label's NFT Resources

Fans can buy new issues and engaging in trading (buying/selling) issued NFT resources that available via an NFT catalogue. **The smart-contract will be changed to support Hybe's donation support to selected charities' ESG linked projects**

Create Fan Crypto Wallets

Before fans can buy new issues or trade pre-owned NFT resources, they must first create crypto wallets or use their existing ones.

Open NFT Exchange Account]

Fan's crypto wallets must be linked to Danumu's NFT exchange platform, which means setting up an UpBit account.

Catalogue Trading NFT resources

All newly issued and used NFT resources are to be tagged appropriately and displayed via an NFT catalogue that informs fans available NFT resources for new sale or re-sale.

Assignment Instructions

The **purpose** of the assignment is to recommend a project plan for Hybe executives to understand the work and deliverables involved to introduce ESG capabilities in their NFT app development and provide basic ESG project communication services, so that they can make an informed and timely decision to approve phase 2 of their NFT investments.

Using the Report Template provided, write a project plan for delivering the complete NFT app. The report is delivered in 2 parts, as indicated in the Report Template and the submission deadlines are indicated in Moodle Assignment 2 and 3 boxes.

Turnitin Scores

Make sure your Turnitin score is at most 20. A low score under 10 is preferred. Excessive high scores will be investigated and findings will be recorded in your marking sheet. In the event of confirmed plagiarism or contract cheating, you will be referred to FIT assessment integrity committee for faculty investigation.

Turnitin is setup to allow one or more drafts submission, which you can each draft's Turnitin score which is not stored in the Turnitin system as yet. **You need to activate submission of your final paper, whose Turnitin score will then be recorded.** If a group submission is left as a draft, it will not be marked and receive zero. Staff will not contact students to correct their draft submission mistake as this is a group assignment and we expect at least one member is responsible to check the group report is submitted correctly. Any following non-draft re-submissions will significantly increase your Turnitin scores, using the first submission's Turnitin score as the comparison benchmark.

Assignment Deliverables

You are to deliver a project plan for Hybe in two submission parts:

1. **Part one – a stakeholder management plan**
2. **Part two – a scope, schedule, budget and risk management plans.**

This plan should be written clearly, supported by relevant and strong literature evidence, which must include references from the PMBoK manual, and supported by attachments of a detailed MS Project Schedule and MS Excel Budget Models.

A **Report Template** is provided (in Moodle) to guide you write for these 2 parts. Make sure you use them, as they align with the marking sheet. There is a **companion writing guide** that instructs you on how to use the report template to correctly write in alignment to the assignments' assessment criteria.

Cover Sheets

You do not have to include a cover sheet, as the Turnitin submission process will confirm your acknowledgment of an auto created coversheet, naming the students in your registered Moodle group.

Progress Reporting

A **hybrid work arrangement** prevails, using team members to meet and interact among themselves and their team supervisor regularly, using MS Team, on site and remotely.

Stand-up meetings by very group member will occur weekly, giving the team's supervisor evidence and confidence that disciplined & effective contributions are made each week once the assignment work commences. Your supervisor will advise you when the first stand-up meeting will start. Team members are required to:

1. update progress events using MS Team Work Tracker and Issues Tracker apps;
2. communicate via MS Team chat-channels, no other online communication tools are allowed
3. store all working files in MS Team File-folder, no G-drive folders.

Other Useful Information

PMBok Must Readings

The following PMBoK Manual 6th Edition's Chapters must be read, as many of these Chapters' planning concepts and methods will be applied in your two group assignments:

1. Part 1 Chapter 13 – Project Stakeholder Management
2. Part 1 Chapter 10 – Project Communication Management
3. Part 1 Chapter 9 – Project Resource Management
4. Part 2 Chapter 5 – Project Scope Management
5. Part 2 Chapter 6 – Project Schedule Management
6. Part 2 Chapter 7 – Project Cost Management
7. Part 2 Chapter 11 – Project Risk Management

Reference to the companion guide – ***A Project Manager Book of Forms*** (third edition) is also recommended, to understand how to document your different knowledge area planning information. This is very useful when you are asked to include tables, such as those for risk management planning.

Both these books are available online via the Monash Library.

You need to carefully read these chapters and document-forms to understand the PM concepts and methods that you are expected to apply in the group assignment work. In the past, many students do not conduct these readings to internalise and deepen what they learnt during classes, which created much unneeded stress and grief in doing the work. Not attending or actively engaging in class learning activities also adds on to this pain.

Building PM competency involves learning 10 different discipline-areas that include both management and technical knowledge, making PM learning more complicated than other unit-studies. On top of this, you also need to apply literature research, critical thinking and report writing techniques. Not surprisingly, practicing PM is also much more complicated and challenging than just coding or doing other SDLC work.

Therefore, **do not**:

1. Leave your assignment work and questions to the last minute
2. Adopt a divide and conquer approach in groupwork. You need to work together in planning all the sections and only *delegate the authoring of group agreed planning responses*. Each person also needs to proof-read the near final version, however appointing one or two persons to collect all feedback and make the final edits prior submission.
3. Skip classes
4. Read at least the workshop and applied classes' Moodle books before class
5. Engage in passive learning or sleeping during classes
6. Irregularly or superficially consult with your supervisor during meetings, including MS Team activities.

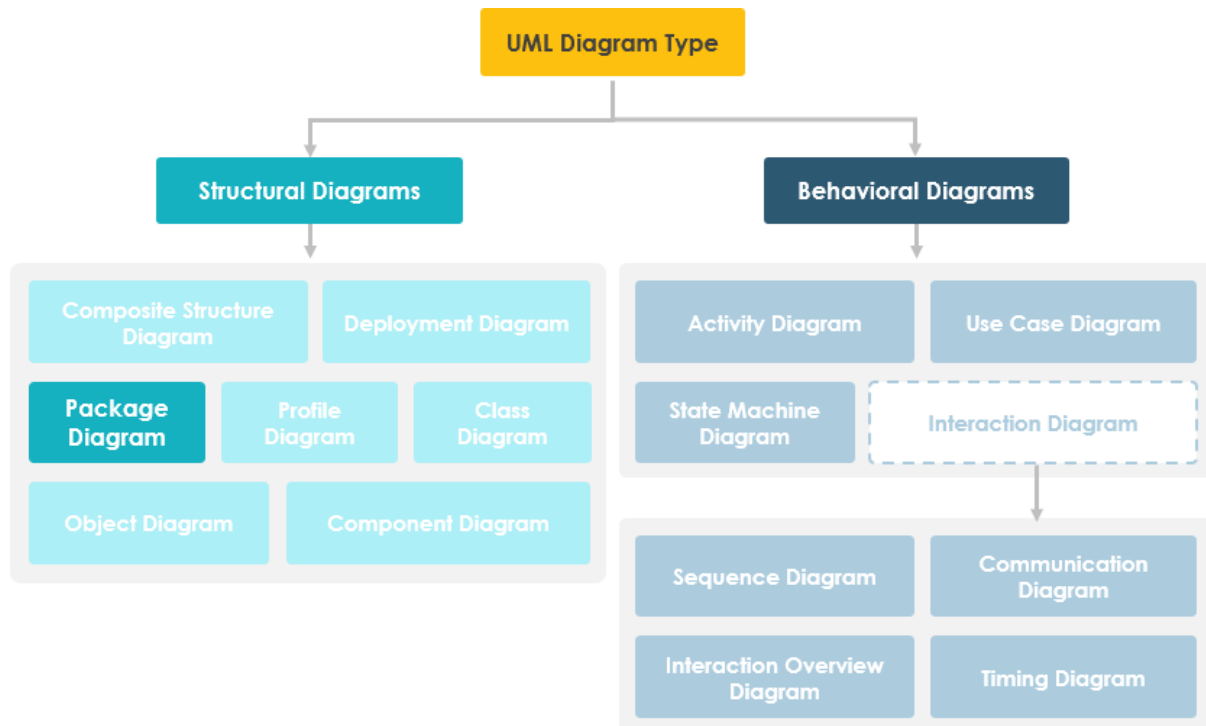
These “do not” habits had constituted a recipe for poor results for students in the past.

The following sections provide overviews of basic software engineering concepts and methods you need to apply in Assignment 2 and 3.

Software Design 101 – Using UML Design Methodology

The UML is a software design methodology that asserts a software system is designed in terms of two interconnecting perspectives:

1. **Structural diagrams** that define the process, data and other static structures of a software system that underpin their procedural and data state changing behaviours
2. **Dynamic diagrams** that define process, data state changing and human and system interfacing behaviours of a software system.



An overview of software design skills required in project planning:

Conceptual modelling: When modelling the conceptual functionality of a system, a project manager is guided by Enterprise Architects; or project design experts; or can personally model the high-level static and dynamic models that conceptualise the user defined business requirements into identifying functional system packages. These system packages conceptualise the real-world business workflow functionality implied in user defined business requirement documents.

These system packages are then further decomposed into sub system packages, of which at the deeper levels will link to a series of dynamic models that describe how the process and data objects in the static models are processed and change data processing states. These conceptual design models, visually describe the real work workflow processing situations, which are exposed to the many identified inefficiencies and duplicated resources.

Logical modelling: Removing the modelled elements that cause the work processing inefficiencies and resource duplications, will transform the conceptual models into logical design models that are inefficiency and duplication free. These logical models are theoretical design blueprints without any physical technology implementation constraints. If a project manager is not competently skilled to do this design modelling work, one should seek help from competent designers in the project team, or in larger corporations by their Enterprise Architects.

Physical modelling: Once the project manager (guided by Enterprise Architects and/or project designers) finalises the choice of technology platform, programming languages and development tools; the logical models need to be modified next to:

- accommodate any technical constraints resulting from the technology choice decision, and
- specify the technical design specifications that guide developers in coding and testers in preparing technical system test scripts.

A project manager, not having the technical skills, should seek help from the expert designers in his/her project team, and/or technical solution architects from the Enterprise Architecture team.

FIT5057 Software Design Expectations & Guidelines

Most students have graduate qualifications in computer science or software engineering studies or are currently doing such studies in their Master's undertakings. This means the majority of students will have acquired basic knowledge about software design methods and modelling techniques, notably those of UML; or business process modelling notation (BPMN) or basic data flow diagrams.

We expect students to product scope their app system at a conceptual design level, capable of identifying the high level system packages that conceptualise and modularise the workflow processes of the given case's user/business requirements, which a functional requirement overview is provided in the assignment brief or separately by teaching staff.

Each group needs to apply their software engineering 101 knowledge to understand the very high-level process, data and GUI objects that are bundled within each system package, to have some ideas of the outputs that need to be developed and put together (integrate) to deliver the whole software apps as a fully tested and working system of interoperating system packaged functions. Understanding all the key design-outputs to be created, tested and rolled out is important for planning the work-breakdown-structures of SDLC activities that are determined by the choice of SDLC methodology decided (we are using [agile SCRUM methodology](#) in the assignment). This means in scoping your project will involve designing the appropriate agile SCRUM and DevOps enabling work breakdown structure (WBS) pattern that may look generally like the below:

L1 Milestone: Configure & Setup Development Server:
Refer to DevOps Server Configuration Guidelines, page 23 for guidance
L3 - Optional

L1 Milestone: System Package 1

L2 Sprint 1:
L3 Analyse
L3 Design
L3 Code & Unit Test
L3 System Package Test
L3 {Install and use}

*
*

L2 Sprint N:
L3 Analyse
L3 Design
L3 Code & Unit Test
L3 System Package Test
L3 {Install and use}

*
*

L1 Milestone: System Package N

L2 Sprint 1:
L3 Analyse
L3 Design
L3 Code & Unit Test

- L3 System Package Test
- L3 {Install and use}
- *
- *
- L2 Sprint N:
 - L3 Analyse
 - L3 Design
 - L3 Code & Unit Test
 - L3 System Package Test
 - L3 {Install and use}{Install and use} or Partial System Package Integration WBS

L1 Milestone: End User Sign-off

L2 This is your WBS design for Whole of System Integration Testing, which may involve either one or more sprints of the full suite of different testing lifecycle phases; with a formal User Acceptance Testing Sign-off as the final deliverable, which delivers the software works in compliance to all its conceptual, logical and technical design specs and automates the client's work environment correctly.

L3 & 4 – Per Testing Cycle Phase WBS

L1 Milestone: Installed New System

L2 Use this <https://www.upguard.com/blog/10-essential-steps-for-configuring-a-new-server> to assume the production activities involved

L3 - Optional

DevOps Server Configuration Guidelines

New Server HARDWARE Configuration WBS

If you are advising the case company client to buy one or more new server/s, make sure the server costs are included in budget.

To setup a brand new server computer, read [this](#) to figure out the 5 steps involved:

1. [Select The Server Hardware](#)
2. [Select The Server Operating System](#)
3. [Choose A Good Server Location](#)
4. [Configure The Server](#)
5. [Implement Server Security](#)

The NFT App database is configured as part of step 4 (and you don't have to go deeper), if you assume new servers are purchased.

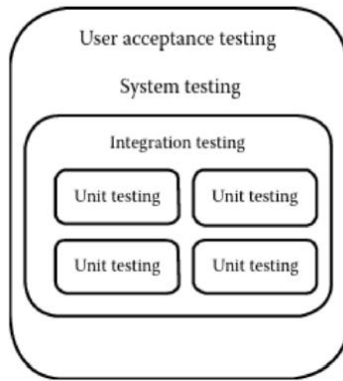
Database Configuration WBS on Existing Servers:

Otherwise read [this article](#) of the steps that describe how to setup an app's database in an existing server or a newly configured server-computer.

For more technical savvy students, you can also *optionally* refer to [this article](#) for more technical insights or choose to ignore.

V Testing Methodology

The [V-testing methodology](#) is strongly recommended.



Before automated testing can commence, all V-test phased test scripts must be manually created and then recorded using some automated testing apps. You can decide the assumption of whether you are commencing automated testing for the first time or are using some of the test scripts from Phase 1. The first choice is simpler to adopt if you are unfamiliar with [testing lifecycle management](#) concepts.

You can assume it is the developer's responsibility to unit test one's programming code and be excluded from the scope of team testing work.

The people roles involved in software testing can be found in this [article](#). You can research other articles if you want more specific clarity of software testing roles and responsibilities.
