MACQUARIE University

Faculty of Science and Engineering

DEPARTMENT OF COMPUTING

Session 2, 2024

ASSIGNMENT 2

BIS Project (A, B, and Presentation)

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Group 5

COMP8750: Information Systems Design and Management

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Executive Summary

The successful execution of the 2028 Olympic Games hinges on the effective recruitment, training, and management of a large, skilled volunteer workforce. This report outlines comprehensive strategies and actionable recommendations to optimize these processes by addressing critical challenges in attracting, training, and retaining a diverse volunteer pool. By leveraging innovative IT initiatives, the proposed solutions aim to enhance operational efficiency and foster greater volunteer engagement.

The report focuses on two main areas: Recruitment Strategy and Training & Development. In the realm of recruitment, one significant challenge is ensuring that volunteers' skills align with the specific requirements of various roles during the event. To address this issue, the report advocates for the implementation of AI-powered recruitment platforms that can efficiently match volunteers based on their skill sets, motivations, and long-term fit with the event's needs. Additionally, targeted social media campaigns and gamification techniques are recommended to reach and engage a broader spectrum of potential volunteers, thus boosting retention through interactive and enjoyable experiences.

Regarding Training & Development, the report emphasizes the complexity of preparing a geographically dispersed and culturally diverse workforce. It proposes utilizing digital learning platforms and mobile applications for pre-event training, which will provide volunteers with accessible, scalable, and flexible learning opportunities. Furthermore, Virtual Reality (VR) simulations are suggested for on-site training, creating immersive environments that closely replicate real-world scenarios and challenges volunteers may face. The integration of AI-driven personalized learning paths will ensure that training is tailored to individual volunteers, maximizing their preparedness and effectiveness.

The key benefits of these IT initiatives include enhanced recruitment efficiency, better alignment between volunteer skills and role requirements, and improved volunteer readiness through flexible and immersive training methods. However, the report also acknowledges challenges such as data privacy concerns, technological accessibility, and high initial investment costs. In conclusion, the adoption of these strategies will not only streamline the recruitment and training

processes but also cultivate a highly engaged and well-prepared volunteer workforce, which is crucial to the overall success of the 2028 Olympic Games.

1. Problem Statement and Business Context

1.1 Recruitment Strategy

The recruitment of volunteers poses significant challenges for large-scale events like the Olympic Games. The 2028 Olympics will require a large and diverse pool of volunteers to support various functions, from logistics to spectator engagement. A core problem in this domain is attracting, training, and retaining qualified volunteers in sufficient numbers while ensuring a good fit between volunteer skills and the roles they are assigned to. For example, during the Paris 2024 Olympics, the organizing committee faced the task of recruiting 45,000 volunteers, while ensuring that applicants had the appropriate qualifications for specialized roles (IPC, 2022). Similar issues can be expected for the 2028 Games, where effective recruitment will be essential to ensuring smooth operations.

1.1.1 Problem Definition

The Olympic Games require a highly skilled and diverse volunteer workforce, but challenges arise in recruiting enough volunteers with the right expertise. This is exacerbated by the short-term nature of the roles, which makes it difficult to attract volunteers seeking long-term career benefits (Holmes et al., 2024). Additionally, there is often a mismatch between volunteer skills and role requirements, leading to inefficiencies and dissatisfaction.

1.1.2 Business Context

Volunteers are critical to the success of the Olympic Games, not just as a supplementary workforce, but as the “face” of the Games to athletes, media, and spectators. Their role in operational efficiency is vital, and any shortcomings in recruitment can negatively impact event execution, public relations, and overall participant morale (Atos, 2023). For example, unqualified or poorly matched volunteers may result in logistical delays, confusion, or subpar experiences for guests and athletes, which in turn can tarnish the reputation of the Games (Lockstone-Binney et al., 2016).

1.1.2.1 Justification

Solving the challenges in volunteer recruitment and management is essential to the operational success of the 2028 Olympics. A well-executed recruitment strategy ensures not only that the Games run smoothly but also that the public image of the event is enhanced through positive interactions between volunteers and guests. In addition, optimizing volunteer engagement can boost morale and contribute to the event's legacy by providing volunteers with meaningful experiences that lead to future involvement in sports and civic events (IPC, 2022). Implementing innovative IS solutions to manage recruitment efficiently and match volunteers to roles based on their skills and motivations will be key to achieving these goals.

1.2 Training and Development

1.2.1 Challenges in Training and Development of Olympic Volunteers

Volunteer training and development is vital to the successful execution of the Olympic Games, as the scale of these events requires the involvement of a large and diverse volunteer base. Volunteers come from various cultural backgrounds, speak different languages, and possess varying skill levels, which complicates the delivery of effective training programs. These volunteers are tasked with managing critical functions such as crowd control, event logistics, guest services, and athlete support. However, the sheer number of volunteers, their diversity, and geographical spread present significant challenges for their training and development. Time constraints further hinder comprehensive training, leading to inconsistent preparation. For instance, the Tokyo 2020 Olympics faced challenges arising from the COVID-19 pandemic, which necessitated a sudden shift to virtual training, impacting volunteer readiness. As studies (Fairley, Gardiner and Filo, 2016) highlight, differences in motivations, language skills, and technical abilities contribute to varied training outcomes, ultimately affecting the operational success of the Games.

1.2.2 Business Context of Volunteer Training

Comprehensive training is crucial for volunteer performance and directly impacts the success of the Olympic Games. Inadequate training can lead to operational inefficiencies, poor spectator

experiences, and safety risks. Studies (Traeger and Alfes, 2019) found that well-trained volunteers are more engaged, motivated, and effective, improving operational efficiency. Effective training also mitigates risks by preparing volunteers to handle emergencies, ensuring safety (Traeger and Alfes, 2019).

2. IT Initiatives in Olympic Volunteering

2.1 Recruitment Strategy Initiatives

2.1.1 Implementation of IT Initiatives: Recruitment Strategy for Olympic Volunteers

The recruitment of volunteers for large-scale events like the Olympic Games has significantly evolved, with modern IT initiatives playing a critical role in streamlining the process. For the Paris 2024 Olympics, a comprehensive digital platform was developed to manage the recruitment and coordination of 45,000 volunteers. This platform, created by Atos, serves as a centralized portal that handles volunteer applications, skill matching, and communication, while ensuring secure data management (Atos, 2023). The use of this kind of platform reflects broader industry trends in utilizing digital solutions to improve efficiency and engagement in volunteer management.

Key IT Initiatives:

1. **Volunteer Management Platforms**: For Paris 2024, the Atos Volunteer Portal allows candidates to apply, track their applications, and receive updates on their assignments. This platform offers several advantages, including automated skill matching where the system identifies candidates with the required skills for specific roles. This reduces the administrative burden and helps ensure that the right volunteers are placed in appropriate positions, enhancing both efficiency and volunteer satisfaction (Atos, 2023). Similar platforms have been used in other global events, such as the 2020 Tokyo Olympics, where a centralized system streamlined the recruitment of over 80,000 volunteers (Tokyo Organizing Committee, 2016).

2. **Social Media Integration**: Leveraging social media platforms like Facebook and Instagram has been a game-changer in reaching a wider and more diverse audience. Social media campaigns were instrumental in the success of previous volunteer recruitment drives for events like the PyeongChang 2018 Winter Olympics, where they attracted a large number of candidates from various demographics by utilizing targeted advertising and influencer partnerships (Ahn, 2018). Social media allows organizers to engage with potential volunteers in a more interactive and personalized manner, increasing interest and participation.

3. **AI and Data Analytics**: Advanced technologies such as AI-driven analytics have proven effective in optimizing recruitment strategies. By analyzing data from previous Olympic events, AI can predict which candidates are most likely to succeed in specific volunteer roles. This allows for more personalized recruitment efforts, ensuring that volunteers are not only well-matched to their roles but also motivated by factors such as career development or community involvement. Furthermore, AI tools can monitor application trends and adapt recruitment strategies in real-time to ensure diversity and sufficient coverage of all volunteer roles.

2.1.2 Benefits and Challenges

These IT initiatives offer significant benefits, including improved efficiency in the recruitment process, better matching of volunteers to roles, and enhanced communication throughout the event lifecycle. However, there are challenges to consider, such as data privacy and the need for high levels of cybersecurity to protect the sensitive information of thousands of volunteers (Atos, 2023). Additionally, while digital platforms are highly efficient, they may alienate potential volunteers who are less tech-savvy, making it essential to provide adequate support and alternative methods for applying.

In conclusion, the integration of IT solutions in the recruitment of Olympic volunteers has revolutionized the process, offering both operational efficiency and enhanced volunteer experiences. By leveraging centralized platforms, social media, and AI, organizers can meet the high demands of large-scale events while ensuring a positive impact on volunteer engagement and satisfaction.

2.2 Training and Development Initiatives

2.2.1 Digital Learning Platforms and E-Learning Modules

One of the primary IT initiatives in the digitalization of training has been the introduction of digital learning platforms. These platforms provide volunteers with access to training modules that can be completed remotely, allowing for more flexible and scalable training approaches. For instance, during the Tokyo 2020 Olympics, a significant portion of volunteer training was conducted online due to the COVID-19 pandemic (*Volunteer Management: The Case of Tokyo 2020 Olympic Games*, 2020). Volunteers were provided with e-learning modules tailored to their specific roles, enabling them to train at their own pace. Similarly, the Paris 2024 Olympics has continued this trend by deploying advanced volunteer management platforms to engage and train volunteers (International Olympic Committee, n.d.).

2.2.2 Mobile Applications for Continuous Learning and Engagement

In addition to web-based platforms, mobile applications have played a key role in the digitalization of training and development for Olympic volunteers. The Rio 2016 Olympics saw the introduction of mobile apps that allow volunteers to access real-time updates and schedules (International Olympic Committee, 2016). These apps provided on-the-go learning opportunities and ensured that volunteers remained engaged and informed even during the games. For instance, a volunteering app was designed for the 2012 Summer London Olympics by Team London (Lockstone-Binney *et al.*, n.d.), integrating features that allow volunteers to engage, facilitate participation, and receive notifications regarding event updates. Moreover, apps with artificial intelligence (AI) functionalities have proven to personalize content based on the learner's responsibilities and learning pace (Yu *et al.*, 2017). This has significantly improved the effectiveness of training by catering to individual learning styles and providing continuous learning opportunities.

2.2.3 Virtual Reality (VR) and Augmented Reality (AR) Simulations

Another IT initiative that has driven the digitalization of training is the use of Virtual Reality (VR) and Augmented Reality (AR). VR simulations allow volunteers to engage in immersive

training environments where they can practice their roles in a virtual setting before performing them in real life. AR has also been utilized to assist volunteers during their roles. For instance, during the Paris 2024 Olympics, AR enhanced glasses were deployed to provide real-time information, instructions and live updates (CIO Africa, n.d.)**.** This technology minimizes the need for physical reference materials and ensures that volunteers have immediate access to critical information.

2.2.3 Benefits of IT Initiatives

2.2.3.1. Enhanced Accessibility and Flexibility

One of the most significant benefits of IT initiatives in the digitalization of training is enhanced accessibility. Volunteers from diverse geographical locations can now access training programs remotely, reducing the need for physical attendance at training centers. This flexibility is particularly advantageous for international volunteers who may have logistical challenges attending in-person training sessions. Digital learning platforms and mobile applications ensure that all volunteers, regardless of location, receive consistent and high-quality training.

2.2.3.2. Scalability and Efficiency

Digital training methods are scalable, making it easier to train large numbers of volunteers in a relatively short time. The ability to roll out standardized e-learning modules across thousands of volunteers ensures consistency in training quality, which is critical for the smooth operation of the Olympic Games. This was evident in the Rio 2016 Olympics, where more than 50,000 volunteers were trained through a combination of digital platforms and in-person sessions (International Olympic Committee, 2016).

2.2.3.3. Improved Knowledge Retention and Engagement

Studies (Shail, 2019) suggest that learning aided with multiple devices or media formats helps in knowledge retention. These methods allow for more engaging and immersive learning experiences compared to traditional classroom-based training. Additionally, individuals learn and

perform more effectively when they engage with short, engaging content at their own pace, rather than being presented with large amounts of complex information all at once (Shail, 2019).

2.2.4. Challenges of Adopting IT Initiatives

2.2.4.1. Digital Divide and Accessibility Issues

While IT initiatives have enhanced accessibility for many volunteers, they have also highlighted the issue of the digital divide. Not all volunteers have equal access to reliable internet connections or digital devices, which can hinder their ability to participate in digital training programs. During the Tokyo 2020 Olympics, some volunteers from remote areas struggled with access to the necessary digital infrastructure (*Volunteer Management: The Case of Tokyo 2020 Olympic Games*, 2020).

2.2.4.2. Data Security and Privacy Concerns

The use of digital platforms also raises concerns about data security and privacy. Volunteers' personal data, including their contact details and training progress, are stored on digital platforms, making them vulnerable to cyberattacks. For example, during the Tokyo 2020 Olympics, there were instances of cyberattacks targeting the digital infrastructure of the Olympic events (*Volunteer Management: The Case of Tokyo 2020 Olympic Games*, 2020).

3. Business Plan

3.1.1 Recruitment Strategy

3.1.1.1 AI-Powered Recruitment Platform with Personalized Matching

AI-powered recruitment platforms will enhance volunteer recruitment for the 2028 Olympics through personalized matching. Advanced algorithms assess not just candidates' skills but also motivations and long-term fit, improving engagement and retention (Esch, Black, & Ferolie, 2019). Skill gap analysis helps identify where volunteers excel or need development, aligning them with roles where they thrive (Cappelli, 2014). Natural Language Processing (NLP) further

refines this process by analyzing sentiment and communication patterns, ensuring alignment with Olympic values (Wan Ibrahim & Hassan, 2019). This data-driven strategy fosters satisfaction, making volunteers both competent and passionate, ensuring event success.

3.1.1.2 Gamification of the Recruitment Process

Gamification will be an innovative method to attract tech-savvy younger volunteers by incorporating digital elements such as psychometric tests (Armstrong & Landers, 2018), points, rewards, achievement badges, and leaderboards into the recruitment process. Instant rewards and friendly competition via leaderboards will motivate volunteers to stay engaged. Team-based challenges could foster collaboration and a sense of community, resonating strongly with younger audiences (Burke, 2014). This engaging approach will enhance retention by offering a fun, personalized experience.

3.1.1.3 Targeted Social Media Campaigns Using Data Analytics

Using data analytics and machine learning, organizations will be able to target potential volunteers on social media based on demographics (VanSickle, Pierce, & Diacin, 2015), interests (Ahn, 2018), and online behaviors (Rochester, 2021). By analyzing volunteer data and tracking trends, precise outreach can be achieved. Customized content, including culturally sensitive messaging and testimonials (Qi, Smith, & Yeoman, 2018), will appeal to diverse audiences. Social media platforms like LinkedIn and Instagram can be used to engage both professionals and younger audiences (Burger, 2023). This approach will maximize engagement and promote diversity, allowing for continuous improvements based on real-time feedback (Esch, Black, & Ferolie, 2019).

3.1.2 Leveraging Social Media and Digital Platforms to Enhance Volunteer Recruitment Efforts

- **Utilize Influencers and Brand Ambassadors**: Collaborating with influencers (Jin, Muqaddam, & Ryu, 2019) and past volunteers (Bang, Bravo, Figuerôa, & Mezzadri, 2019) will enhance credibility and appeal to a broader audience.

- **Interactive Campaigns and Hashtags**: Olympic-themed social media challenges using branded hashtags (Abeza, et al., 2021) will boost engagement and community involvement (VanSickle, Pierce, & Diacin, 2015).
- **Social Proof and Testimonials**: Sharing success stories could build trust and encourage new volunteers through transparency and personal endorsements (Wang & Wu, 2014).

3.1.3 Expected Business Benefits and Major Potential Risks

The adoption of AI-powered recruitment platforms for the 2028 Olympic Games offers transformative benefits, including enhanced efficiency, reduced recruitment costs, and improved volunteer engagement through personalized matching. The early adoption of integration of advanced technologies brings benefits to the business but also introduces significant risks.

3.1.3.1 Business Benefits

AI-powered recruitment platforms (Saad, Nugro, & Thinakaran, 2021) offer efficient volunteer-role matching by automating processes through existing frameworks. Cloud-based infrastructure ensures scalability, supporting the management of large volumes of applications, while gamification strategies can be seamlessly integrated using customized APIs (Obaid, Farooq, & ABID, 2020). Enhanced targeted social media campaigns employ advanced advertising and analytics tools (International Olympic Committee, 2016), ensuring precise outreach to attract suitable volunteers.

These strategies also prove to be cost-effective, AI-powered platforms, while requiring initial development cost, reduce recruitment costs by up to 30% (Jones, 2022) and shorten time-to-fill roles by 67% (Linkedin, 2018). Gamification boosts engagement by 30% (BI worldwide Bunchball, 2020) and increases volunteer applications by 20% (Talent LMS, 2019) , resulting in a lower cost-per-recruit. Additionally, targeted social media campaigns provide 28% lower cost-per-lead and 300% higher conversion (SALMONS, KROLIK, BUTLER, & Brown, 2015), (Montoya, 2022).

3.1.3.2 Potential Risks

Despite its benefits, the use of AI recruitment systems presents risks. Data privacy breaches pose significant challenges, with 39% of data breaches going undetected (Mazal, 2024) and the average cost per breach amounting to $3.86 million (IBM Security, 2020). Algorithmic bias affects 47% of consumers, raising concerns about fairness and inclusivity (PwC, 2019). Technical issues also pose challenges, with 14% of IT projects failing due to integration difficulties. Furthermore, non-compliance with data regulations like GDPR or CCPA could result in legal repercussions and loss of trust (International Olympic Committee, 2024),

3.1.2.3 Mitigation Strategies

To address these risks, organizations must ensure AI platforms comply with data regulations, conduct regular audits, and use human oversight to detect biases (International Olympic Committee, 2024). Gamification must be implemented with user consent and adherence to intellectual property laws (Kim & Werbach, 2016). Dependency on social media platforms carries risks related to changing policies, which require continuous monitoring and contingency planning.

3.1.4 Strategic IT Implementation

To successfully implement the volunteer recruitment strategy for the LA28 Olympic Games, leveraging Information Technology (IT) is essential. The integration of strategic IT systems enhances efficiency, engagement, and scalability in recruiting a diverse and skilled volunteer workforce. Implementation of these methods requires development and integration of specific IT systems and tools.

3.1.4.1 AI-Powered Recruitment Platform with Personalized Matching

Conduct requirements analysis, design the platform focusing on user interface and architecture, develop the AI matching engine, integrate a secure database, and implement data protection protocols (Hemamou, Felhi, Martin, & Clavel, 2019). Thorough testing, including user

acceptance testing, will precede platform deployment and performance monitoring (Gupta & Mishra, 2022).

3.1.4.2 Gamification of the Recruitment Process

Develop a gamification strategy, design interactive modules and reward systems, integrate them into the platform (Obaid, Farooq, & ABID, 2020), and test with focus groups before deployment (Mohanty & B, 2024).

3.1.4.3 Targeted Social Media Campaigns Using Data Analytics

Develop a campaign strategy, create content, establish a content calendar, launch campaigns, monitor performance using analytics tools, and optimize based on data insights. Generate regular reports for continuous improvement (Baker, Mitchell, & Thomas, 2022).

3.1.4 Project Management Elements

3.1.4.1. Project Scope

The project focuses on developing and integrating three core IS solutions for recruiting volunteers for the 2028 Olympics. These include:

1. An AI-powered recruitment platform for screening and personalized matching.
2. Gamification elements to enhance engagement in the recruitment process.
3. Targeted social media campaigns using data analytics to attract a diverse and skilled pool of volunteers.

The timeline, from July 2024 to November 2026, is justified by the complexity of procuring, configuring, and integrating third-party solutions, followed by comprehensive testing. Vendor selection and system procurement will be prioritized to fast-track implementation, leveraging pre-built solutions to reduce development time. Deliverables include custom recruitment workflows, gamification features, and campaign automation. Adequate time is allocated for User Acceptance Testing (UAT) and stakeholder approvals, ensuring all systems function cohesively

before recruitment begins in early 2026. The use of third-party solutions accelerates deployment while reducing risks, ensuring timely project completion within the recruitment cycle.

Task Name	Duration	Start	Finish	Deadline	Resource Names
1. Initial Planning & Stakeholder Communication	**66 days**	**Mon 01-07-24**	**Mon 30-09-24**	**Mon 30-09-24**	
Sub tasks:	**0 days**	**Mon 01-07-24**	**Mon 01-07-24**	**NA**	
Conduct kickoff meetings with the Olympic committee and vendors.				NA	
Develop project charter and initial requirements.				NA	
Set up regular communication channels (weekly meetings, reporting).				NA	
Stakeholder approvals on the initial roadmap and requirements.				NA	
Key Deliverable:	**0 days**	**Mon 30-09-24**	**Mon 30-09-24**	**NA**	
Project Charter				NA	
Communication Plan				NA	
Key Milestone: Project Kickoff & Approval of Initial Requirements	0 days	Mon 30-09-24	Mon 30-09-24	NA	
				NA	
2. Requirement Gathering & Finalization	**67 days**	**Sun 01-09-24**	**Sat 30-11-24**	**Sat 30-11-24**	
2.1 Gather detailed system requirements from stakeholders.				NA	
2.2 Finalize recruitment roles, target volunteer demographics, and volume.				NA	
2.3 Create detailed documentation of system functionality.				NA	
2.4 Obtain sign-offs from the Olympic committee on the final requirements.				NA	
Key Milestone: Finalization of System Requirements	0 days	Sat 30-11-24	Sat 30-11-24	NA	
Key Deliverable:	**0 days**	**Sat 30-11-24**	**Sat 30-11-24**	**NA**	
System Requirements Document				NA	
Key Deliverable: Recruitment Roles and Demographics Definition				NA	
3. Vendor Selection & License Procurement	**23 days**	**Sun 01-12-24**	**Tue 31-12-24**	**Tue 31-12-24**	
3.1 Evaluate vendors for AI recruitment, gamification, and social media tools.				NA	
3.2 Obtain quotes and negotiate contracts.				NA	
3.3 Procure licenses for Greenhouse, Seppo, and LinkedIn/HubSpot.				NA	

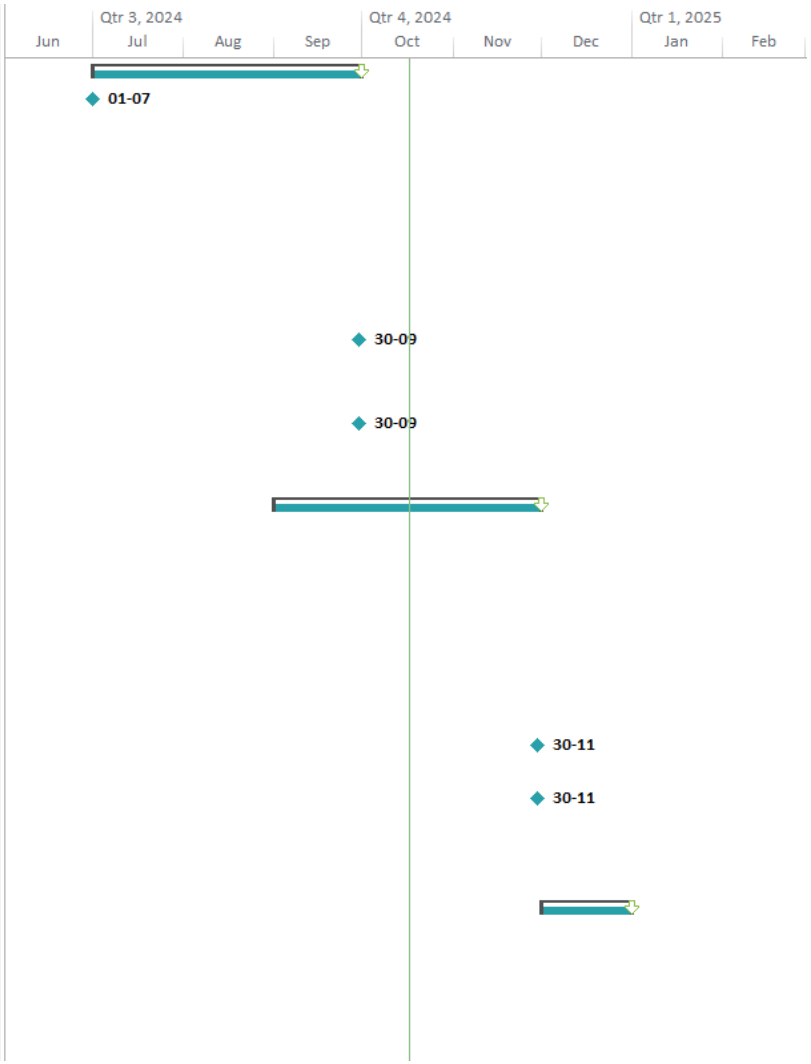
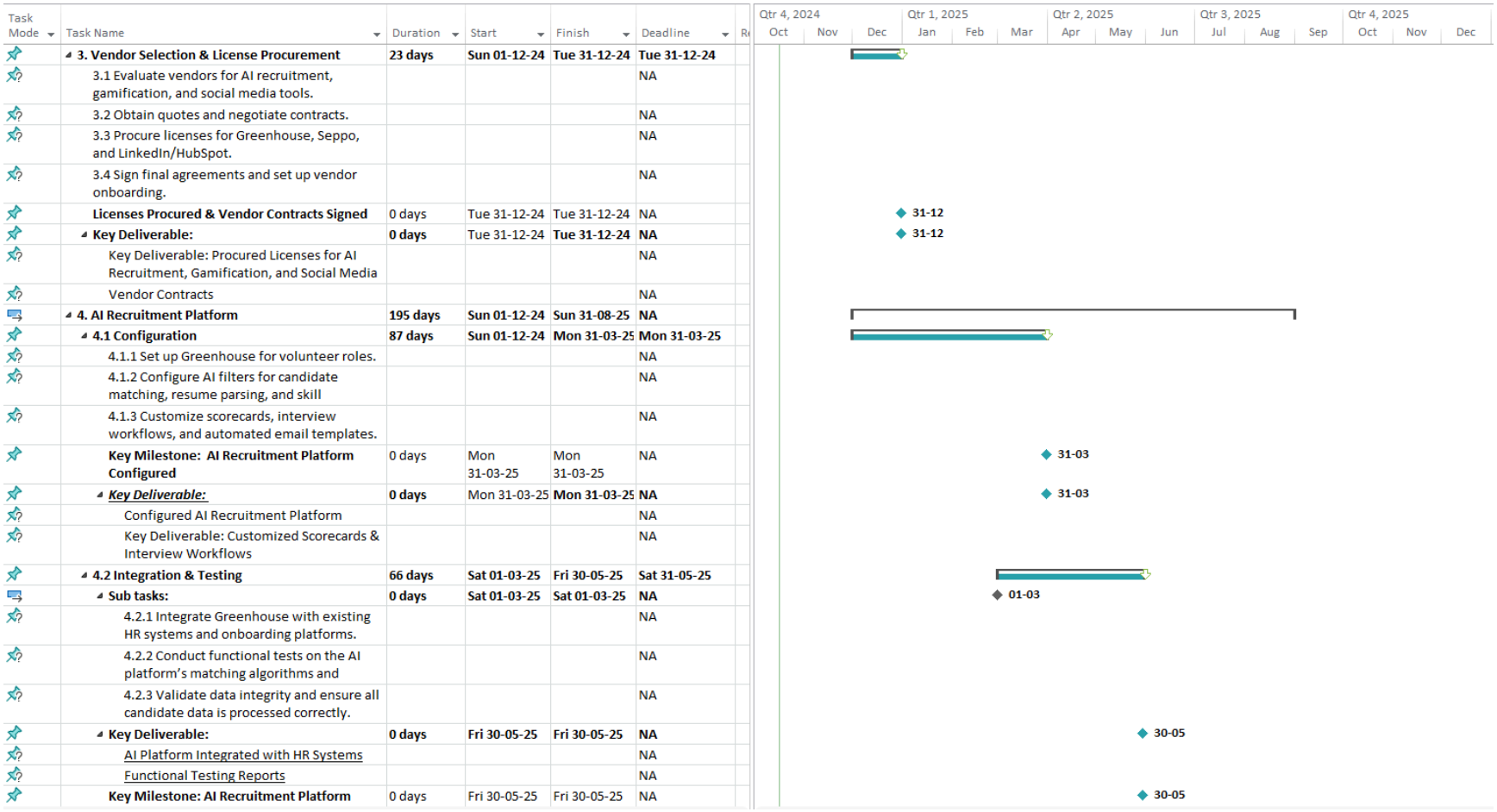
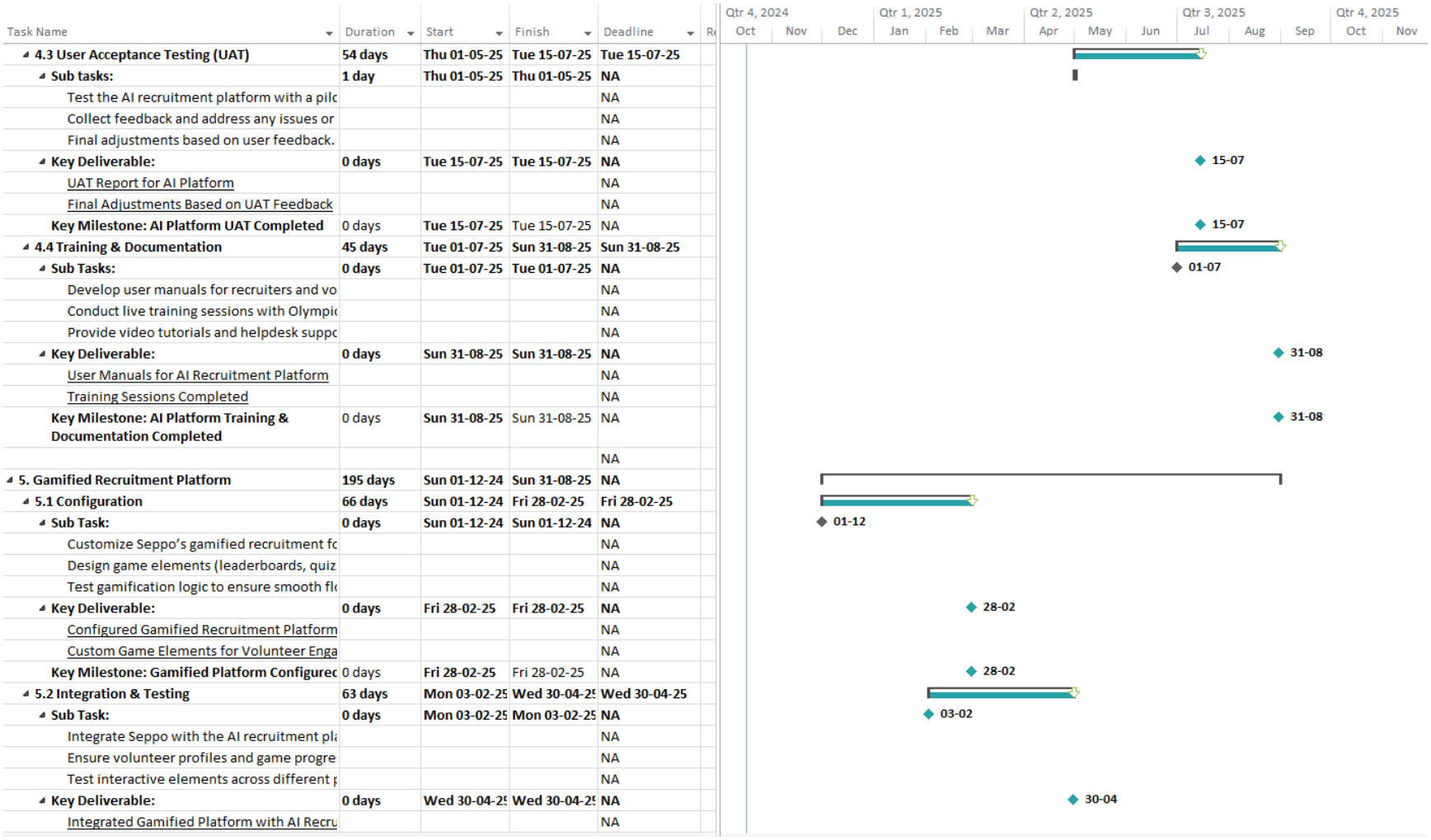


Figure 1 - Gantt Chart for proposed Recruitment Strategy IS solution -1



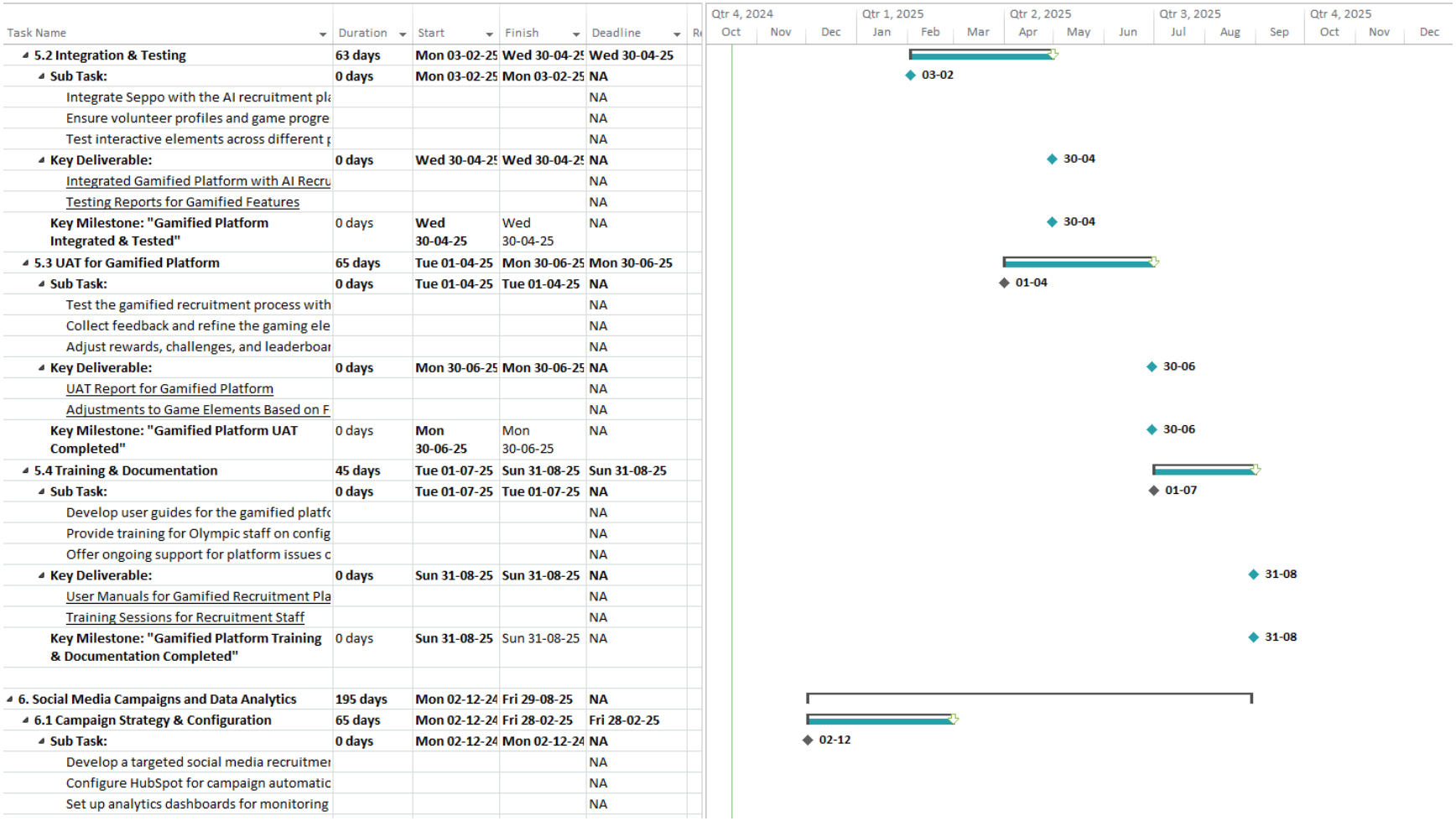
Task Mode	Task Name	Duration	Start	Finish	Deadline
	3. Vendor Selection & License Procurement	**23 days**	**Sun 01-12-24**	**Tue 31-12-24**	**Tue 31-12-24**
	3.1 Evaluate vendors for AI recruitment, gamification, and social media tools.				NA
	3.2 Obtain quotes and negotiate contracts.				NA
	3.3 Procure licenses for Greenhouse, Seppo, and LinkedIn/HubSpot.				NA
	3.4 Sign final agreements and set up vendor onboarding.				NA
	Licenses Procured & Vendor Contracts Signed	0 days	Tue 31-12-24	Tue 31-12-24	NA
	Key Deliverable:	**0 days**	Tue 31-12-24	**Tue 31-12-24**	**NA**
	Key Deliverable: Procured Licenses for AI Recruitment, Gamification, and Social Media				NA
	Vendor Contracts				NA
	4. AI Recruitment Platform	**195 days**	**Sun 01-12-24**	**Sun 31-08-25**	**NA**
	4.1 Configuration	**87 days**	**Sun 01-12-24**	**Mon 31-03-25**	**Mon 31-03-25**
	4.1.1 Set up Greenhouse for volunteer roles.				NA
	4.1.2 Configure AI filters for candidate matching, resume parsing, and skill				NA
	4.1.3 Customize scorecards, interview workflows, and automated email templates.				NA
	Key Milestone: AI Recruitment Platform Configured	0 days	Mon 31-03-25	Mon 31-03-25	NA
	Key Deliverable:	**0 days**	Mon 31-03-25	**Mon 31-03-25**	**NA**
	Configured AI Recruitment Platform				NA
	Key Deliverable: Customized Scorecards & Interview Workflows				NA
	4.2 Integration & Testing	**66 days**	**Sat 01-03-25**	**Fri 30-05-25**	**Sat 31-05-25**
	Sub tasks:	**0 days**	**Sat 01-03-25**	**Sat 01-03-25**	**NA**
	4.2.1 Integrate Greenhouse with existing HR systems and onboarding platforms.				NA
	4.2.2 Conduct functional tests on the AI platform's matching algorithms and				NA
	4.2.3 Validate data integrity and ensure all candidate data is processed correctly.				NA
	Key Deliverable:	**0 days**	**Fri 30-05-25**	**Fri 30-05-25**	**NA**
	AI Platform Integrated with HR Systems				NA
	Functional Testing Reports				NA
	Key Milestone: AI Recruitment Platform	0 days	Fri 30-05-25	Fri 30-05-25	NA

Figure 2 - Gantt Chart for proposed Recruitment Strategy IS solution -2



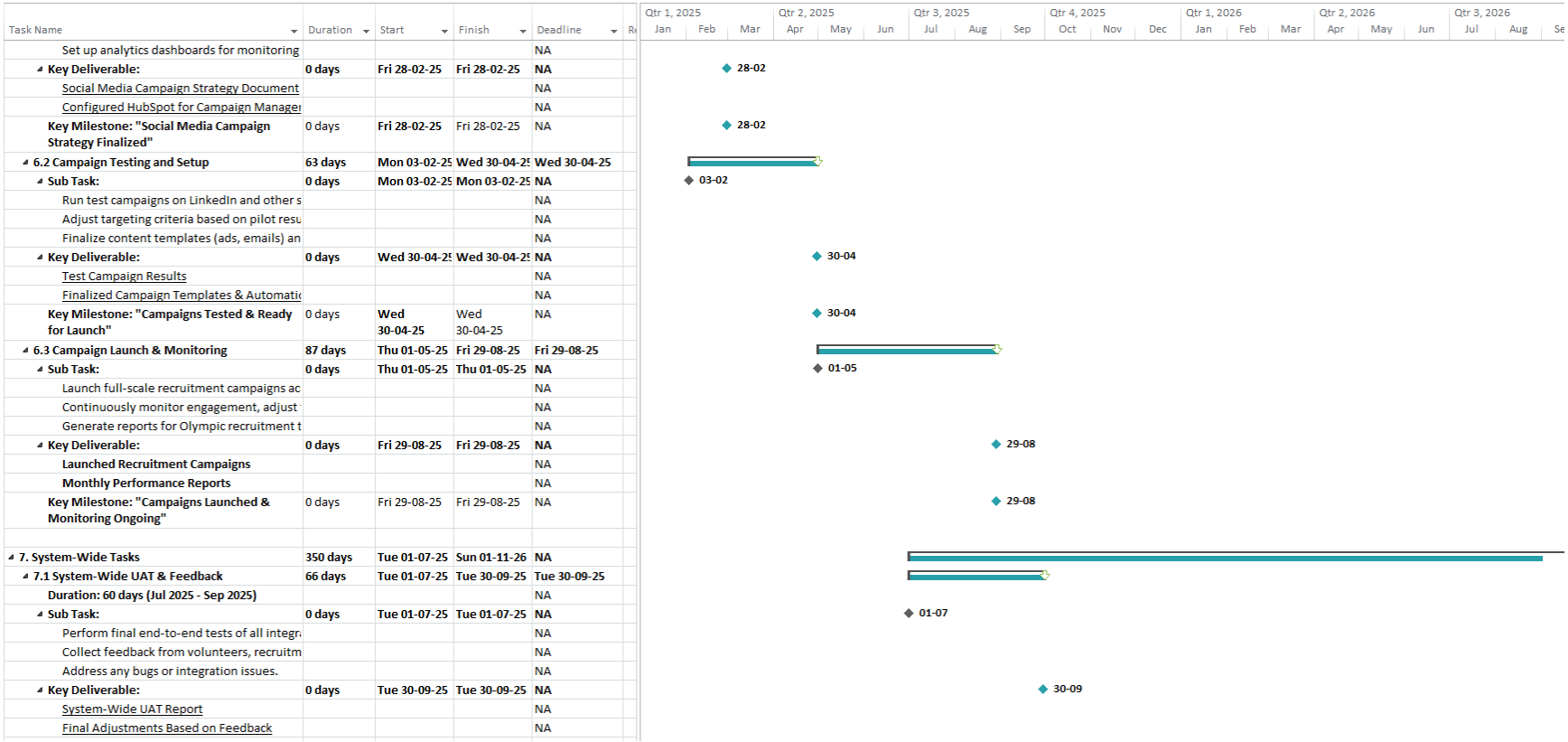
Task Name	Duration	Start	Finish	Deadline
4.3 User Acceptance Testing (UAT)	**54 days**	**Thu 01-05-25**	**Tue 15-07-25**	**Tue 15-07-25**
Sub tasks:	**1 day**	**Thu 01-05-25**	**Thu 01-05-25**	**NA**
Test the AI recruitment platform with a pilc				NA
Collect feedback and address any issues or				NA
Final adjustments based on user feedback.				NA
Key Deliverable:	**0 days**	**Tue 15-07-25**	**Tue 15-07-25**	**NA**
UAT Report for AI Platform				NA
Final Adjustments Based on UAT Feedback				NA
Key Milestone: AI Platform UAT Completed	0 days	**Tue 15-07-25**	Tue 15-07-25	NA
4.4 Training & Documentation	**45 days**	**Tue 01-07-25**	**Sun 31-08-25**	**Sun 31-08-25**
Sub Tasks:	**0 days**	**Tue 01-07-25**	**Tue 01-07-25**	**NA**
Develop user manuals for recruiters and vo				NA
Conduct live training sessions with Olympic				NA
Provide video tutorials and helpdesk suppc				NA
Key Deliverable:	**0 days**	**Sun 31-08-25**	**Sun 31-08-25**	**NA**
User Manuals for AI Recruitment Platform				NA
Training Sessions Completed				NA
Key Milestone: AI Platform Training & Documentation Completed	0 days	**Sun 31-08-25**	Sun 31-08-25	NA
				NA
5. Gamified Recruitment Platform	**195 days**	**Sun 01-12-24**	**Sun 31-08-25**	**NA**
5.1 Configuration	**66 days**	**Sun 01-12-24**	**Fri 28-02-25**	**Fri 28-02-25**
Sub Task:	**0 days**	**Sun 01-12-24**	**Sun 01-12-24**	**NA**
Customize Seppo's gamified recruitment fc				NA
Design game elements (leaderboards, quiz				NA
Test gamification logic to ensure smooth fl				NA
Key Deliverable:	**0 days**	**Fri 28-02-25**	**Fri 28-02-25**	**NA**
Configured Gamified Recruitment Platform				NA
Custom Game Elements for Volunteer Enga				NA
Key Milestone: Gamified Platform Configurec	0 days	**Fri 28-02-25**	Fri 28-02-25	NA
5.2 Integration & Testing	**63 days**	**Mon 03-02-25**	**Wed 30-04-25**	**Wed 30-04-25**
Sub Task:	**0 days**	**Mon 03-02-25**	**Mon 03-02-25**	**NA**
Integrate Seppo with the AI recruitment pl				NA
Ensure volunteer profiles and game progre				NA
Test interactive elements across different p				NA
Key Deliverable:	**0 days**	**Wed 30-04-25**	**Wed 30-04-25**	**NA**
Integrated Gamified Platform with AI Recru				NA

Figure 3 - Gantt Chart for proposed Recruitment Strategy IS solution -3



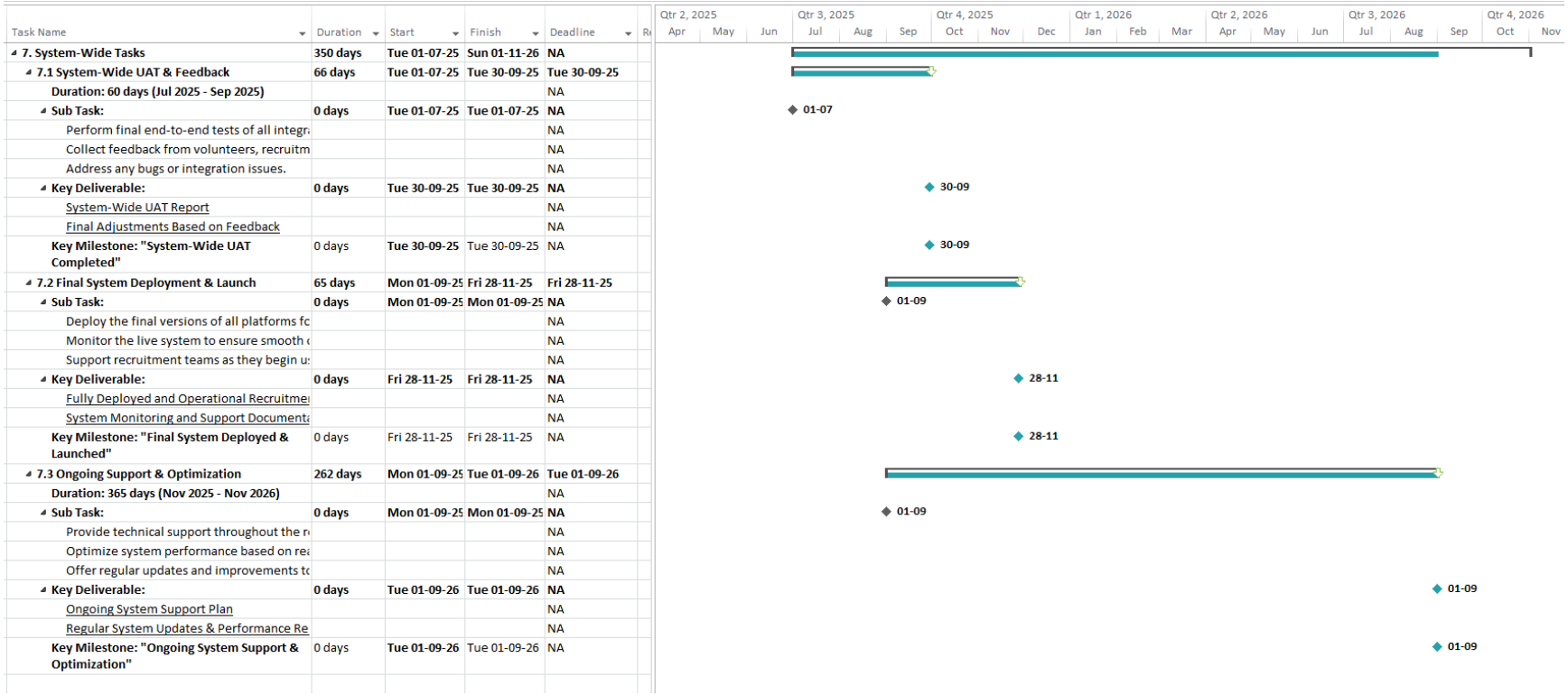
Task Name	Duration	Start	Finish	Deadline
5.2 Integration & Testing	**63 days**	**Mon 03-02-25**	**Wed 30-04-25**	**Wed 30-04-25**
Sub Task:	**0 days**	**Mon 03-02-25**	**Mon 03-02-25**	**NA**
Integrate Seppo with the AI recruitment pla				NA
Ensure volunteer profiles and game progre				NA
Test interactive elements across different p				NA
Key Deliverable:	**0 days**	**Wed 30-04-25**	**Wed 30-04-25**	**NA**
Integrated Gamified Platform with AI Recru				NA
Testing Reports for Gamified Features				NA
Key Milestone: "Gamified Platform Integrated & Tested"	0 days	**Wed 30-04-25**	Wed 30-04-25	NA
5.3 UAT for Gamified Platform	**65 days**	**Tue 01-04-25**	**Mon 30-06-25**	**Mon 30-06-25**
Sub Task:	**0 days**	**Tue 01-04-25**	**Tue 01-04-25**	**NA**
Test the gamified recruitment process with				NA
Collect feedback and refine the gaming ele				NA
Adjust rewards, challenges, and leaderboar				NA
Key Deliverable:	**0 days**	**Mon 30-06-25**	**Mon 30-06-25**	**NA**
UAT Report for Gamified Platform				NA
Adjustments to Game Elements Based on F				NA
Key Milestone: "Gamified Platform UAT Completed"	0 days	**Mon 30-06-25**	Mon 30-06-25	NA
5.4 Training & Documentation	**45 days**	**Tue 01-07-25**	**Sun 31-08-25**	**Sun 31-08-25**
Sub Task:	**0 days**	**Tue 01-07-25**	**Tue 01-07-25**	**NA**
Develop user guides for the gamified platfo				NA
Provide training for Olympic staff on config				NA
Offer ongoing support for platform issues c				NA
Key Deliverable:	**0 days**	**Sun 31-08-25**	**Sun 31-08-25**	**NA**
User Manuals for Gamified Recruitment Pla				NA
Training Sessions for Recruitment Staff				NA
Key Milestone: "Gamified Platform Training & Documentation Completed"	0 days	**Sun 31-08-25**	Sun 31-08-25	NA
6. Social Media Campaigns and Data Analytics	**195 days**	**Mon 02-12-24**	**Fri 29-08-25**	**NA**
6.1 Campaign Strategy & Configuration	**65 days**	**Mon 02-12-24**	**Fri 28-02-25**	**Fri 28-02-25**
Sub Task:	**0 days**	**Mon 02-12-24**	**Mon 02-12-24**	**NA**
Develop a targeted social media recruitmer				NA
Configure HubSpot for campaign automatic				NA
Set up analytics dashboards for monitoring				NA

Figure 4 - Gantt Chart for proposed Recruitment Strategy IS solution - 4



Task Name	Duration	Start	Finish	Deadline
Set up analytics dashboards for monitoring				NA
Key Deliverable:	**0 days**	**Fri 28-02-25**	**Fri 28-02-25**	**NA**
Social Media Campaign Strategy Document				NA
Configured HubSpot for Campaign Manage				NA
Key Milestone: "Social Media Campaign Strategy Finalized"	0 days	**Fri 28-02-25**	Fri 28-02-25	NA
6.2 Campaign Testing and Setup	**63 days**	**Mon 03-02-25**	**Wed 30-04-25**	**Wed 30-04-25**
Sub Task:	**0 days**	**Mon 03-02-25**	**Mon 03-02-25**	**NA**
Run test campaigns on LinkedIn and other s				NA
Adjust targeting criteria based on pilot resu				NA
Finalize content templates (ads, emails) an				NA
Key Deliverable:	**0 days**	**Wed 30-04-25**	**Wed 30-04-25**	**NA**
Test Campaign Results				NA
Finalized Campaign Templates & Automatic				NA
Key Milestone: "Campaigns Tested & Ready for Launch"	0 days	**Wed 30-04-25**	Wed 30-04-25	NA
6.3 Campaign Launch & Monitoring	**87 days**	**Thu 01-05-25**	**Fri 29-08-25**	**Fri 29-08-25**
Sub Task:	**0 days**	**Thu 01-05-25**	**Thu 01-05-25**	**NA**
Launch full-scale recruitment campaigns ac				NA
Continuously monitor engagement, adjust				NA
Generate reports for Olympic recruitment t				NA
Key Deliverable:	**0 days**	**Fri 29-08-25**	**Fri 29-08-25**	**NA**
Launched Recruitment Campaigns				NA
Monthly Performance Reports				NA
Key Milestone: "Campaigns Launched & Monitoring Ongoing"	0 days	Fri 29-08-25	Fri 29-08-25	NA
7. System-Wide Tasks	**350 days**	**Tue 01-07-25**	**Sun 01-11-26**	**NA**
7.1 System-Wide UAT & Feedback	**66 days**	**Tue 01-07-25**	**Tue 30-09-25**	**Tue 30-09-25**
Duration: 60 days (Jul 2025 - Sep 2025)				NA
Sub Task:	**0 days**	**Tue 01-07-25**	**Tue 01-07-25**	**NA**
Perform final end-to-end tests of all integr				NA
Collect feedback from volunteers, recruitm				NA
Address any bugs or integration issues.				NA
Key Deliverable:	**0 days**	**Tue 30-09-25**	**Tue 30-09-25**	**NA**
System-Wide UAT Report				NA
Final Adjustments Based on Feedback				NA

Figure 5 - Gantt Chart for proposed Recruitment Strategy IS solution -5



Task Name	Duration	Start	Finish	Deadline
7. System-Wide Tasks	**350 days**	**Tue 01-07-25**	**Sun 01-11-26**	**NA**
7.1 System-Wide UAT & Feedback	**66 days**	**Tue 01-07-25**	**Tue 30-09-25**	**Tue 30-09-25**
Duration: 60 days (Jul 2025 - Sep 2025)				NA
Sub Task:	**0 days**	**Tue 01-07-25**	**Tue 01-07-25**	**NA**
Perform final end-to-end tests of all integr				NA
Collect feedback from volunteers, recruitm				NA
Address any bugs or integration issues.				NA
Key Deliverable:	**0 days**	**Tue 30-09-25**	**Tue 30-09-25**	**NA**
System-Wide UAT Report				NA
Final Adjustments Based on Feedback				NA
Key Milestone: "System-Wide UAT Completed"	0 days	**Tue 30-09-25**	Tue 30-09-25	NA
7.2 Final System Deployment & Launch	**65 days**	**Mon 01-09-25**	**Fri 28-11-25**	**Fri 28-11-25**
Sub Task:	**0 days**	**Mon 01-09-25**	**Mon 01-09-25**	**NA**
Deploy the final versions of all platforms fc				NA
Monitor the live system to ensure smooth				NA
Support recruitment teams as they begin u				NA
Key Deliverable:	**0 days**	**Fri 28-11-25**	**Fri 28-11-25**	**NA**
Fully Deployed and Operational Recruitme				NA
System Monitoring and Support Documenta				NA
Key Milestone: "Final System Deployed & Launched"	0 days	Fri 28-11-25	Fri 28-11-25	NA
7.3 Ongoing Support & Optimization	**262 days**	**Mon 01-09-25**	**Tue 01-09-26**	**Tue 01-09-26**
Duration: 365 days (Nov 2025 - Nov 2026)				NA
Sub Task:	**0 days**	**Mon 01-09-25**	**Mon 01-09-25**	**NA**
Provide technical support throughout the r				NA
Optimize system performance based on rea				NA
Offer regular updates and improvements to				NA
Key Deliverable:	**0 days**	**Tue 01-09-26**	**Tue 01-09-26**	**NA**
Ongoing System Support Plan				NA
Regular System Updates & Performance Re				NA
Key Milestone: "Ongoing System Support & Optimization"	0 days	**Tue 01-09-26**	Tue 01-09-26	NA

Figure 6 - Gantt Chart for proposed Recruitment Strategy IS solution - 6

Cost estimates of Recruitment strategies

Category	Subcategory	Cost Type	Cost (AUD)	Description
AI Recruitment Platform (Greenhouse)	Licensing	Ongoing (Annually	**$24,500**	Annual license fee for AI-driven recruitment system
	Configuration & Integration	One-Time	**$30,000**	Custom setup and configuration of recruitment workflows
	Testing & UAT	One-Time	**$10,000**	User Acceptance Testing (UAT) and adjustments
	Ongoing Support & Maintenance	Ongoing (Annually	**$15,000**	Technical support and updates for system maintenance
	Total AI Platform		**$158,500**	Total cost for AI platform over 3 years
Gamified Recruitment Platform (Seppo)	Licensing	Ongoing (Annually	$15,000	Annual license for gamification platform
	Customization & Integration	One-Time	$20,000	Customizing game elements for volunteer engagement
	Testing & UAT	One-Time	$8,000	UAT and game element adjustments
	Ongoing Support & Maintenance	Ongoing (Annually	$10,000	Technical support and platform updates
	Total Gamified Platform		**$103,000**	Total cost for gamification platform over 3 years
Social Media Campaigns (HubSpot & LinkedIn)	Licensing	Ongoing (Annually	$14,400	LinkedIn Recruiter annual license
	Licensing	Ongoing (Annually	$9,600	HubSpot Marketing Hub annual license
	Campaign Configuration & Testing	One-Time	$20,000	Setup, configuration, and testing of campaigns
	Ongoing Campaign Management	Ongoing (Annually	$10,000	Ongoing campaign optimization and monitoring
	Total Social Media Campaigns		**$122,000**	Total cost for social media campaigns over 3 years
Consultancy Fees	Initial Project Management	One-Time	$50,000	Planning, vendor selection, and overall project management
	Ongoing Consultancy Support	Ongoing (Annually	$25,000	Technical expertise and support throughout the recruitment cycle
	Total Consultancy Fees		**$125,000**	Consultancy fees over the project's
Contingency Fund		One-Time	$49,050	10% contingency for unexpected costs or overruns
Training & Documentation	AI Platform Training	One-Time	$10,000	Training sessions and documentation for recruitment teams
	Gamification Platform Training	One-Time	$7,500	Training sessions and documentation for the gamified system
	Social Media Campaign Training	One-Time	$5,000	Training sessions for managing campaigns on HubSpot and LinkedIn
	Total Training & Documentation		**$22,500**	Total training costs for all platforms
Grand Total (over 3 years)			**$580,050**	Total estimated cost for all solutions and consultancy services

Figure 7 - Cost estimate for procuring 3rd party software for proposed Recruitment Strategy IS solution

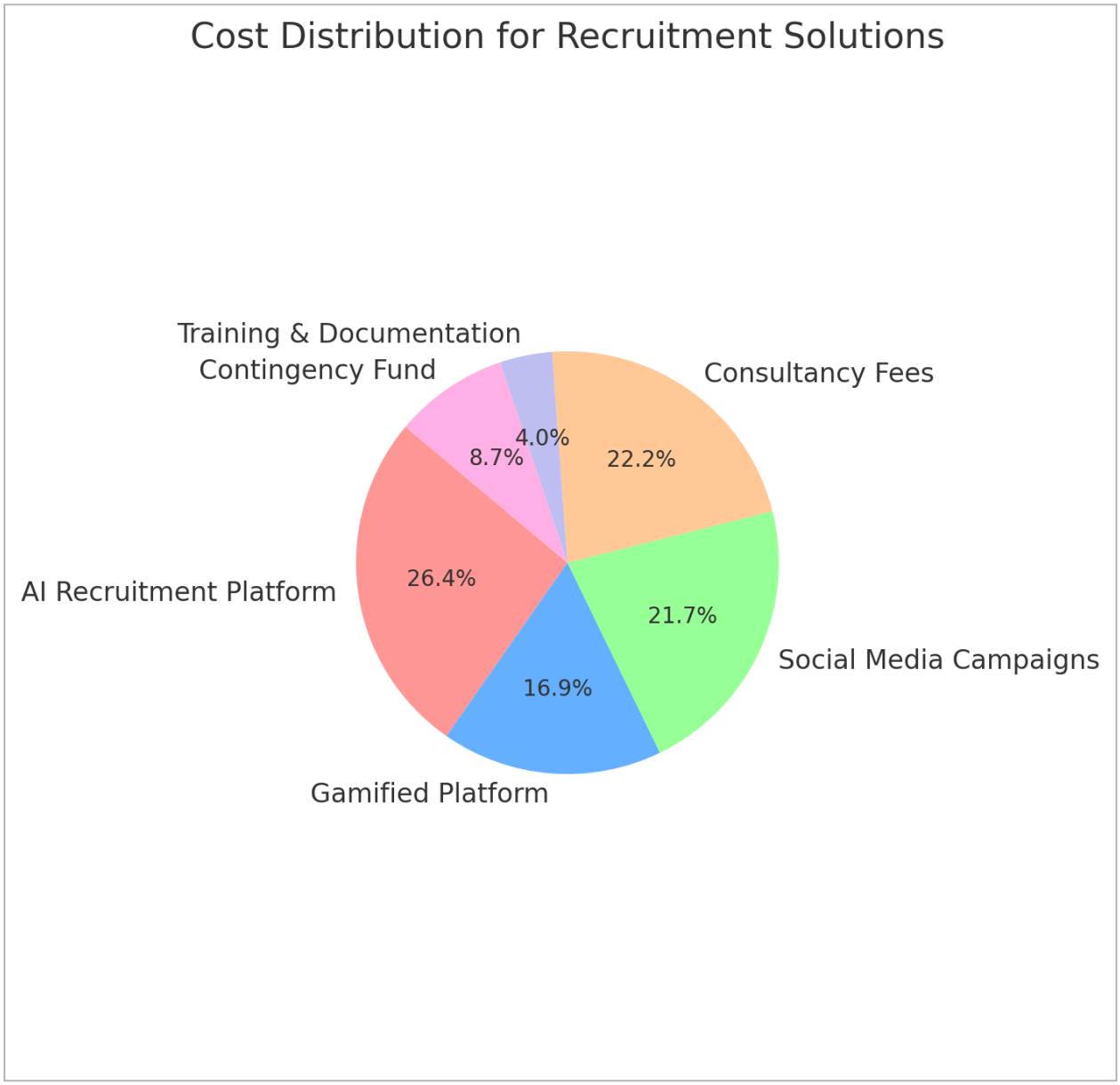


Figure 8 - Pie Chart for Cost distribution for 3rd party software for proposed Recruitment Strategy IS solution

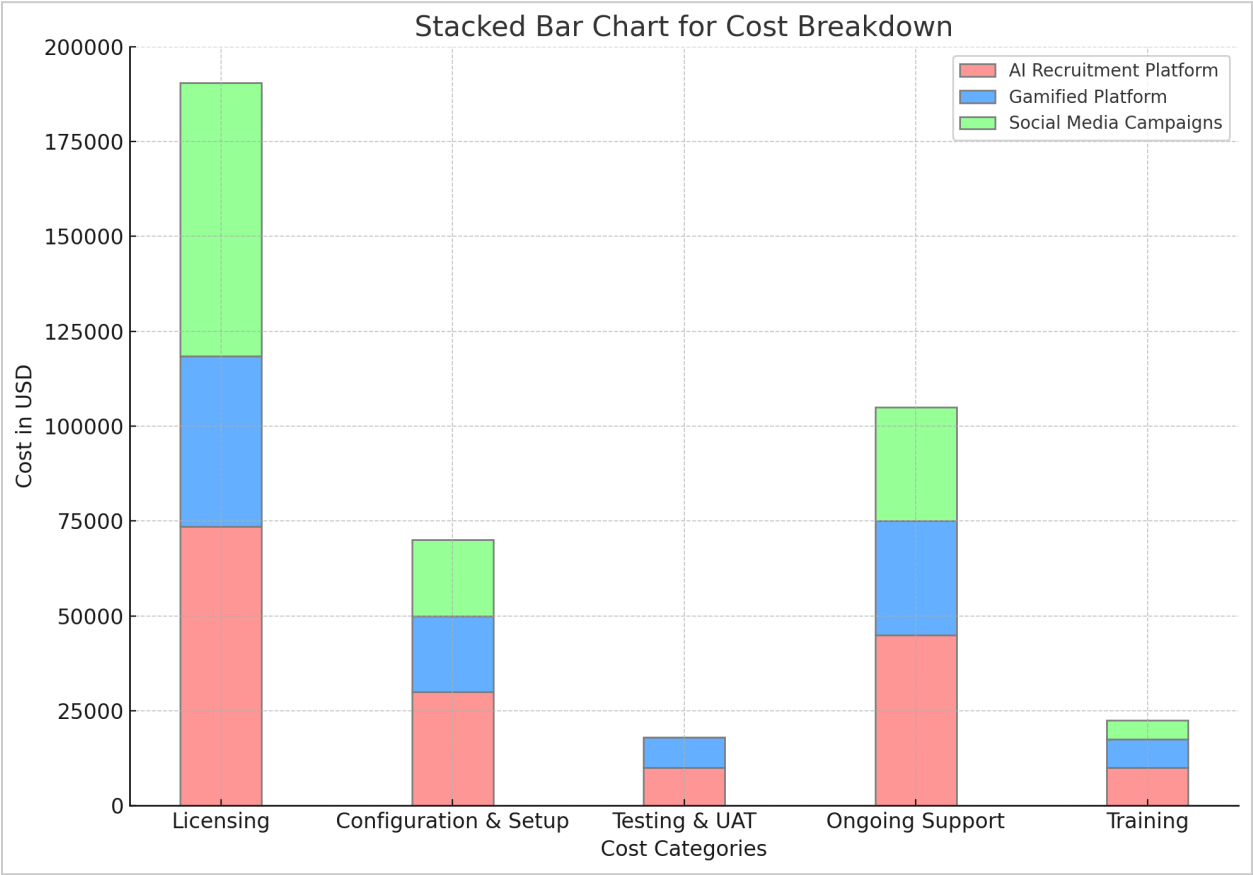


Figure 9 - Stacked Bar Chart for Cost breakdown for 3rd party software for proposed Recruitment Strategy IS solution

Key deliverables with deadline

Main Task	Key Deliverables	Description of Deliverables	Date of Deliverable
Initial Planning & Stakeholder Communication	Project Charter, Communication Plan	Defines the project's scope, objectives, and communication channels	September 30, 2024
Requirement Gathering & Finalization	System Requirements Document, Recruitment Roles and Demographics Definition	Detailed system specifications and target volunteer demographics	November 30, 2024
Vendor Selection & License Procurement	Vendor Contracts, Licenses Procured for AI Recruitment, Gamification, and Social Media Tools	Signed contracts and licenses to begin configuration of the selected third-party tools	December 31, 2024
AI Recruitment Platform Configuration	Configured AI Recruitment Platform, Customized Scorecards & Interview	AI system configured for volunteer recruitment, including personalized matching and interview workflows	March 31, 2025
AI Recruitment Platform Integration & Testing	Integrated AI Platform with HR Systems, Functional Testing Reports	Integration with HR systems and functional testing to ensure proper operation of the recruitment platform	May 31, 2025
AI Recruitment Platform User Acceptance Testing	UAT Report for AI Platform, Final Adjustments Based on UAT Feedback	Feedback from volunteers and final adjustments to improve platform performance and usability	July 15, 2025
AI Recruitment Platform Training & Documentation	User Manuals for AI Platform, Training Sessions Completed	Comprehensive training materials and sessions to guide the recruitment staff in using the AI platform	August 31, 2025
Gamified Recruitment Platform	Configured Gamified Platform, Custom Game Elements for Volunteer Engagement	Custom gamification features configured to enhance volunteer recruitment engagement	February 28, 2025
Gamified Platform Integration & Testing	Integrated Gamified Platform with AI System, Testing Reports for Gamified Features	Integration with the AI platform and testing to ensure smooth gamification of the recruitment process	April 30, 2025
Gamified Platform UAT	UAT Report for Gamified Platform, Adjustments to Game Elements Based on Feedback	Feedback from users and final adjustments to gamification elements to ensure high engagement and functionality	June 15, 2025
Gamified Platform Training & Documentation	User Manuals for Gamified Platform, Training Sessions for Recruitment Staff	Training guides and sessions to help the recruitment team manage the gamified recruitment platform	August 31, 2025
Social Media Campaign Strategy & Configuration	Social Media Campaign Strategy Document, Configured HubSpot for Campaign Management	A detailed strategy for targeting volunteers and setting up HubSpot for campaign automation and analytics tracking	February 28, 2025
Social Media Campaign Testing & Setup	Test Campaign Results, Finalized Campaign Templates & Automation Workflows	Results from test campaigns and finalization of templates and workflows for live social media recruitment campaigns	April 30, 2025
Campaign Launch & Monitoring	Launched Recruitment Campaigns, Monthly Performance Reports	Social media campaigns go live, and performance reports track engagement and volunteer sign-ups	August 31, 2025
System-Wide UAT & Feedback	System-Wide UAT Report, Final Adjustments Based on Feedback	End-to-end testing of all integrated systems, with feedback and final adjustments made	September 30, 2025
Final System Deployment & Launch	Fully Deployed and Operational Recruitment System, System Monitoring and Support Documentation	Final deployment of all systems, with monitoring and support documentation for continued operation	November 30, 2025

Figure 10 - Key deliverables with deadline for proposed Recruitment Strategy IS solution

Key Milestone	Deadline
Project Kickoff & Approval of Initial Requirements	September 30, 2024
Finalization of System Requirements	November 30, 2024
Licenses Procured & Vendor Contracts Signed	December 31, 2024
AI Recruitment Platform Configured	March 31, 2025
Gamified Platform Configured	February 28, 2025
Social Media Campaign Strategy Finalized	February 28, 2025
AI Recruitment Platform Integrated & Tested	May 31, 2025
Gamified Platform Integrated & Tested	April 30, 2025
Campaigns Tested & Ready for Launch	April 30, 2025
AI Platform UAT Completed	July 15, 2025
Gamified Platform UAT Completed	June 15, 2025
System-Wide UAT Completed	September 30, 2025
Final System Deployed & Launched	November 30, 2025

Figure 11 - Key Milestones with deadline for proposed Recruitment Strategy IS solution

3.2. Training and Development

3.2.1 IS Solution Proposal

To address the challenges in the training and development of volunteers for the 2028 Olympic Games, the proposed IS solution is an AI-powered mobile learning application with Virtual Reality (VR) capabilities. This system provides both pre-event, personalized training and immersive, on-site simulations to ensure volunteers are fully prepared for their roles.

3.2.1.1. Pre-Event Training using Mobile Learning Applications

Mobile learning provides volunteers with on-demand access to training materials through a dedicated mobile app (Kumar et al., 2018). Volunteers complete foundational training remotely before arriving on-site, with interactive videos, quizzes, and modules that allow them to learn at their own pace. The app includes real-time notifications, reminders, and progress tracking to ensure volunteers complete necessary training on time. By delivering mobile-friendly training content, the app ensures both convenience and accessibility, allowing volunteers to stay well-prepared, even with a geographically dispersed workforce (Brew, 2024).

3.2.1.2. On-site Training using Virtual Reality (VR)

For on-site training, Virtual Reality (VR) immerses volunteers in realistic simulations replicating real-world Olympic scenarios. VR places users in 3D environments where they interact with lifelike situations (Hamad & Jia, 2022). Customized VR modules allow volunteers to experience the complexities of their roles without real-life risks. A study by PwC found that VR improves learning retention by up to 75%, while a McKinsey report noted a 40% increase in productivity and a 30% reduction in training time (Vorecol, 2024). For the 2028 Olympics, a partnership with VR providers like Oculus or HTC Vive will create customized modules for scenarios like crowd control (Radianti et al., 2020).

3.2.1.3. AI-Driven Personalized Learning Paths

An AI-driven personalized learning path tailors training content to individual volunteers by analyzing their learning patterns, performance metrics, and engagement data (Jian, 2023).

Throughout both pre-event and on-site training phases, AI tailors training content based on volunteer performance, such as quiz scores, engagement metrics, and simulation results. Volunteers who excel can progress faster, while those needing more support receive targeted training. This adaptive approach ensures all volunteers are adequately prepared for their roles. Moreover, a study by Strielkowski et al. (2024) found that AI-enhanced learning significantly boosts engagement and knowledge retention. This technology ensures efficient, tailored training, improving preparedness and reducing overall training time.

3.2.2. Expected Business Benefits

3.2.2.1. Enhanced Preparedness

The combination of VR and AI-driven learning paths ensures volunteers are exposed to realistic simulations and receive personalized training based on their performance. This dual approach boosts preparedness by offering immersive experiences and tailored support, making sure volunteers are well-equipped for their roles at the 2028 Olympics.

3.2.2.2. Efficient Resource Utilization

The integration of mobile learning and AI minimizes the need for large, in-person training sessions. Volunteers can access materials remotely, reducing the demand for physical training centers and staff (Brew, 2024). This leads to cost savings and allows organizers to allocate resources more effectively.

3.2.2.3. Data-Driven Insights

AI-powered analytics track volunteer progress in real time, enabling organizers to monitor readiness levels and make proactive adjustments to the training program (Yassin, 2024). This ensures volunteers receive timely support, improving the overall efficiency and effectiveness of the training process.

3.2.3. Major Potential Risks

3.2.3.1. High Initial Investment

The development and implementation of VR modules, AI systems, and mobile learning applications require significant upfront capital. Procuring VR headsets and other hardware, along with software development, may pose financial challenges (Radianti et al., 2020). Although these technologies may yield long-term benefits, the initial costs could strain the event's budget.

3.2.3.2. Technological Accessibility

Not all volunteers may have access to the necessary devices or be familiar with advanced technologies like VR (Creed et al., 2023). This could result in unequal access to training materials and impact volunteer preparedness. Solutions such as centralized training hubs or offering loaned equipment may help mitigate this issue.

3.2.3.3. Data Security Concerns

The collection of individual data through AI systems introduces potential privacy and security risks (Rijmenam, 2024). Ensuring that volunteer data is protected from breaches and mishandling will be crucial. This may require implementing strong data security measures and ensuring compliance with relevant regulations, adding to operational complexity.

3.2.4. Strategic IT Implementation

Implementing the proposed IS solution for volunteer training requires a strategic, phased approach to ensure smooth deployment and operation. The primary components include VR platforms, mobile learning applications, and AI integration.

- **VR Platforms:** A partnership with VR providers like Oculus or HTC Vive will be established to develop tailored simulations (Radianti et al., 2020). VR headsets will be distributed to key training hubs, enabling volunteers to participate in immersive, scenario-based training. These hubs will ensure equal access for volunteers without personal VR equipment.

- **Mobile Learning Applications:** A dedicated mobile app compatible with Android and iOS will deliver interactive training materials, quizzes, and real-time updates. This app will integrate with existing volunteer management systems to track progress and provide reminders, ensuring engagement and timely completion.
- **AI-Driven Personalized Learning:** AI will tailor learning paths based on individual performance data, embedded within the mobile app (Jian, 2023). The system will offer adaptive content while providing event organizers with real-time analytics to monitor volunteer readiness.

System Compatibility: To ensure seamless integration, the VR platform and the AI-driven mobile learning application will be fully compatible with the existing Olympic volunteer management systems. The AI component, embedded within the mobile app, will personalize training content based on volunteer performance, ensuring tailored learning paths for each volunteer. A thorough testing phase will be conducted to identify and resolve any technical issues before full deployment. Furthermore, strong data security measures will be implemented to protect sensitive volunteer information throughout the training process, ensuring compliance with relevant regulations.

3.2.5. Project Management Elements

3.2.5.1. Project Scope

Objective: To develop and implement a comprehensive volunteer training IS that utilizes mobile learning applications for pre-event training, VR simulations for on-site training, and AI-driven personalized learning paths throughout both phases. This IS solution aims to enhance volunteer preparedness, engagement, and performance by providing customized, interactive, and immersive training experiences.

3.2.5.2. Project Phases and Timeline

The implementation will span an estimated 38 months & is planned from October 17, 2024, to September 2, 2027. Figure 12 below the different phases of the project, Figure 13 & Figure 14

below shows the detailed GANTT Chart with extensive WBS of the project and Figure 15 depicts the key milestones.

Task Mode	Task Name	Duration	Start	Finish
	1 Volunteer Training IS Implementation	751 days	Thu 10/17/24	Thu 9/2/27
	1.1 Project Kickoff	470 days	Thu 10/17/24	Wed 8/5/26
	1.2 Mobile App Development	350 days	Fri 5/1/26	Thu 9/2/27
	1.3 VR Training Development	70 days	Wed 5/13/26	Wed 8/19/26
	1.4 AI System Development	183 days	Thu 5/14/26	Mon 1/25/27
	1.5 Content Development	50 days	Thu 5/14/26	Wed 7/22/26
	1.6 Integration and Testing	30 days	Mon 3/8/27	Fri 4/16/27
	1.7 Deployment and Training	58 days	Mon 4/19/27	Wed 7/7/27
	1.8 Project Closure	40 days	Wed 7/7/27	Thu 9/2/27

Figure 12 : High level project phases

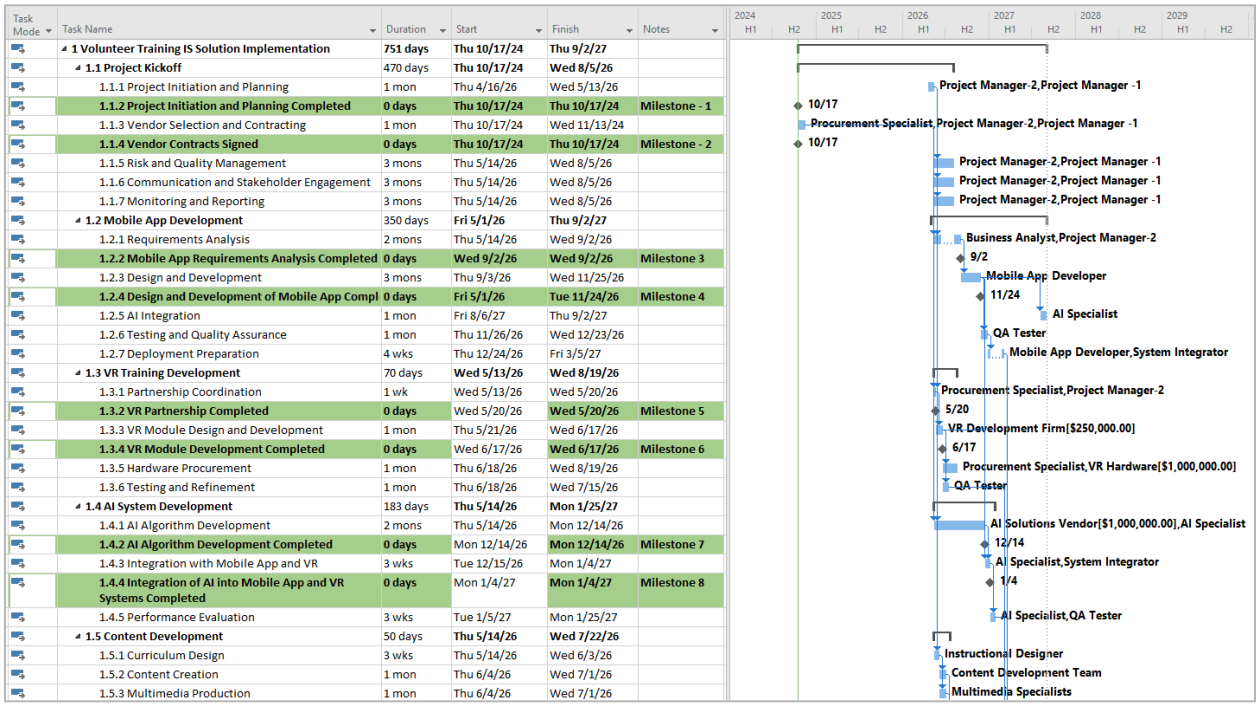
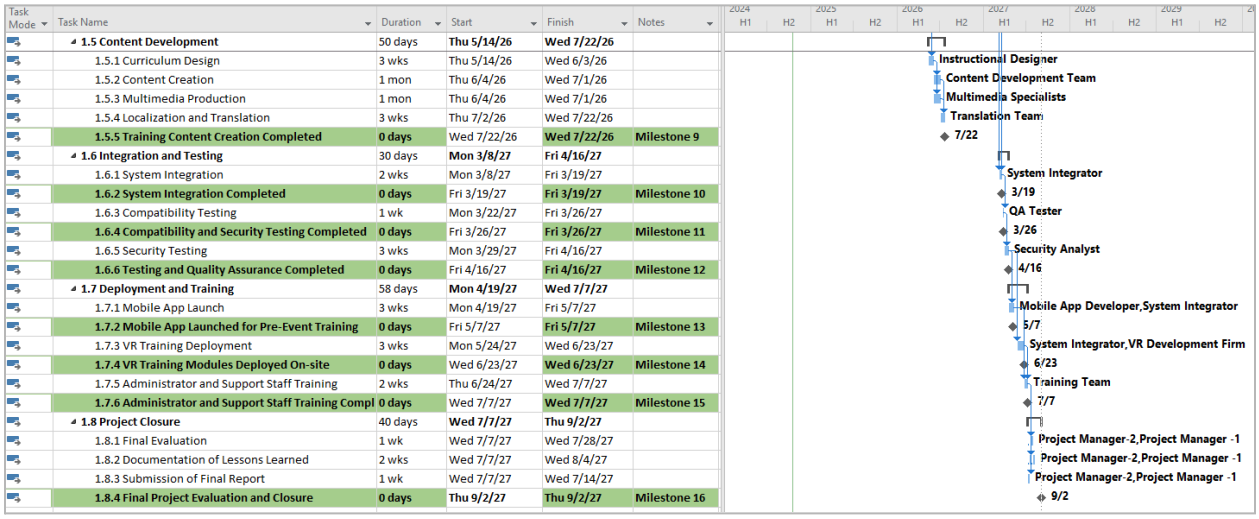


Figure 13: Gantt Chart for Volunteer Training IS Implementation



Task Mode	Task Name	Duration	Start	Finish	Notes
	1.5 Content Development	50 days	**Thu 5/14/26**	**Wed 7/22/26**	
	1.5.1 Curriculum Design	3 wks	Thu 5/14/26	Wed 6/3/26	
	1.5.2 Content Creation	1 mon	Thu 6/4/26	Wed 7/1/26	
	1.5.3 Multimedia Production	1 mon	Thu 6/4/26	Wed 7/1/26	
	1.5.4 Localization and Translation	3 wks	Thu 7/2/26	Wed 7/22/26	
	1.5.5 Training Content Creation Completed	**0 days**	Wed 7/22/26	**Wed 7/22/26**	**Milestone 9**
	1.6 Integration and Testing	30 days	**Mon 3/8/27**	**Fri 4/16/27**	
	1.6.1 System Integration	2 wks	Mon 3/8/27	Fri 3/19/27	
	1.6.2 System Integration Completed	**0 days**	Fri 3/19/27	**Fri 3/19/27**	**Milestone 10**
	1.6.3 Compatibility Testing	1 wk	Mon 3/22/27	Fri 3/26/27	
	1.6.4 Compatibility and Security Testing Completed	**0 days**	Fri 3/26/27	**Fri 3/26/27**	**Milestone 11**
	1.6.5 Security Testing	3 wks	Mon 3/29/27	Fri 4/16/27	
	1.6.6 Testing and Quality Assurance Completed	**0 days**	Fri 4/16/27	**Fri 4/16/27**	**Milestone 12**
	1.7 Deployment and Training	58 days	**Mon 4/19/27**	**Wed 7/7/27**	
	1.7.1 Mobile App Launch	3 wks	Mon 4/19/27	Fri 5/7/27	
	1.7.2 Mobile App Launched for Pre-Event Training	**0 days**	Fri 5/7/27	**Fri 5/7/27**	**Milestone 13**
	1.7.3 VR Training Deployment	3 wks	Mon 5/24/27	Wed 6/23/27	
	1.7.4 VR Training Modules Deployed On-site	**0 days**	Wed 6/23/27	**Wed 6/23/27**	**Milestone 14**
	1.7.5 Administrator and Support Staff Training	2 wks	Thu 6/24/27	Wed 7/7/27	
	1.7.6 Administrator and Support Staff Training Compl	**0 days**	Wed 7/7/27	**Wed 7/7/27**	**Milestone 15**
	1.8 Project Closure	40 days	**Wed 7/7/27**	**Thu 9/2/27**	
	1.8.1 Final Evaluation	1 wk	Wed 7/7/27	Wed 7/28/27	
	1.8.2 Documentation of Lessons Learned	2 wks	Wed 7/7/27	Wed 8/4/27	
	1.8.3 Submission of Final Report	1 wk	Wed 7/7/27	Wed 7/14/27	
	1.8.4 Final Project Evaluation and Closure	**0 days**	**Thu 9/2/27**	**Thu 9/2/27**	**Milestone 16**

Figure 14: Gantt Chart for Volunteer Training IS Implementation - 2

MILESTONES DUE

Milestones that are coming soon.

Name	Finish
Project Initiation and Planning Completed	Thu 10/17/24
Vendor Contracts Signed	Thu 10/17/24
Mobile App Requirements Analysis Completed	Wed 9/2/26
Design and Development of Mobile App Completed	Tue 11/24/26
VR Partnership Completed	Wed 5/20/26
VR Module Development Completed	Wed 6/17/26
AI Algorithm Development Completed	Mon 12/14/26
Integration of AI into Mobile App and VR Systems Completed	Mon 1/4/27
Training Content Creation Completed	Wed 7/22/26
System Integration Completed	Fri 3/19/27
Compatibility and Security Testing Completed	Fri 3/26/27
Testing and Quality Assurance Completed	Fri 4/16/27
Mobile App Launched for Pre-Event Training	Fri 5/7/27
VR Training Modules Deployed On-site	Wed 6/23/27
Administrator and Support Staff Training Completed	Wed 7/7/27
Final Project Evaluation and Closure	Thu 9/2/27

Figure 15: Key milestones for the training and development IS implementation

5.2.4.2. Key Deliverables

Deliverable ID	Deliverable Name	Description	Estimated Delivery Date
D1	Mobile Learning Application	A fully functional mobile app with interactive training materials, notifications, and progress tracking.	Sep-27
D2	Customized VR Training Modules	Immersive VR simulations developed in partnership with VR providers, deployed on-site with necessary hardware.	Aug-26
D3	AI-Powered Personalized Learning System	AI algorithms integrated into the mobile app to provide adaptive learning paths.	Jan-27
D4	Training Content and Materials	Comprehensive training modules, interactive videos, quizzes, and assessments, localized into multiple languages.	Jul-26
D5	System Integration and Testing Reports	Documentation of integration processes, detailed testing, and quality assurance reports ensuring system compatibility and functionality.	Apr-27
D6	Data Security Implementation	Implementation of data protection protocols and compliance certification documents meeting GDPR, CCPA, and ADA standards.	Jul-27
D7	Project Documentation	Comprehensive project plans, progress reports, user manuals, technical documentation, and final project evaluation.	Aug-27

Project Timeline and Duration
Total Project Duration: Approximately 38 months.

Project Start Date: July 2024
Project End Date: September 2027

Figure 16: Key deliverables for Volunteer Training IS Implementation

5.2.4.3. Cost Estimates

The detailed cost estimates for the project based on WBS are depicted below in Figure 17, Figure 18, Figure 19 and Table 1.

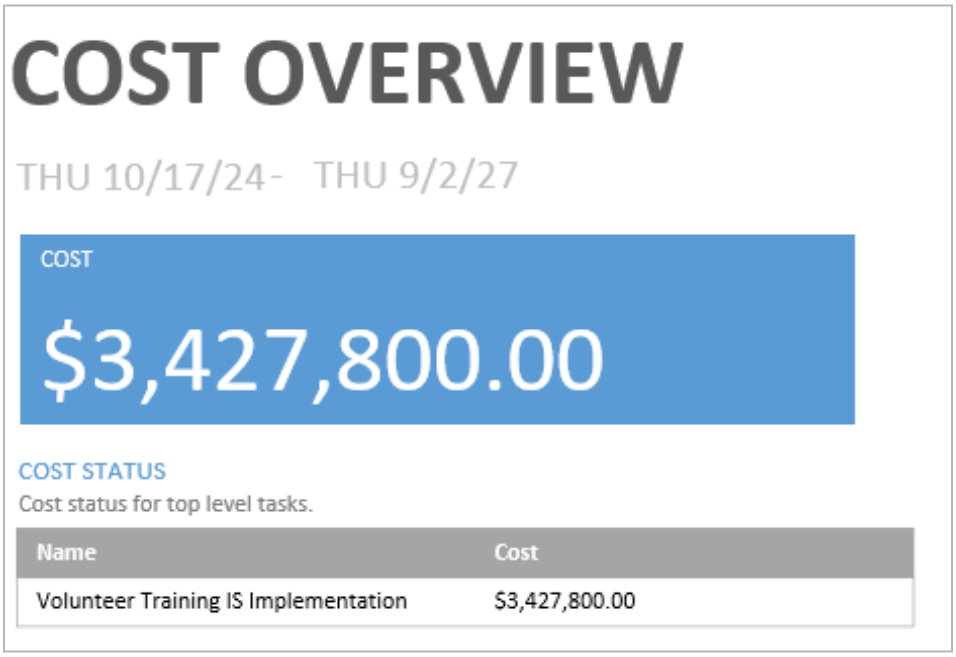


Figure 17: Net Cost Estimate Overview for Volunteer Training IS Implementation

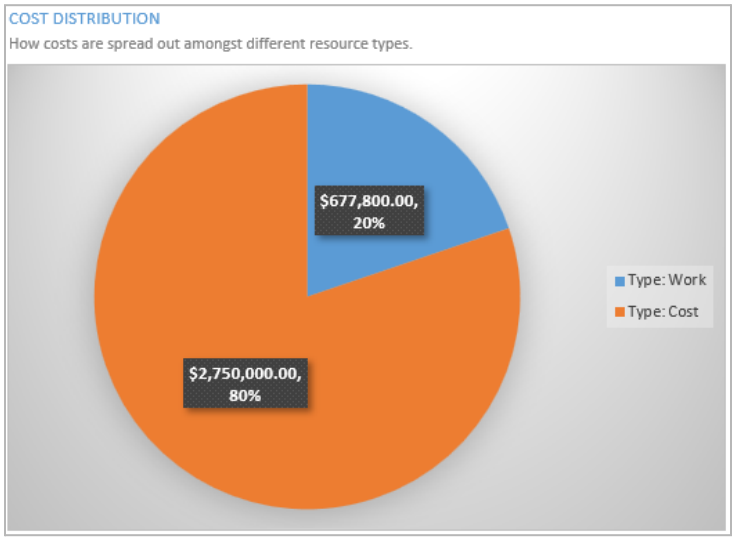


Figure 18: Net Cost Estimate Distribution for Volunteer Training IS Implementation

COST DETAILS

Cost details for all the resources in the project

Name	Cost	Standard Rate
Project Manager -1	$192,000.00	$100.00/hr
Project Manager-2	$192,000.00	$100.00/hr
Business Analyst	$12,800.00	$80.00/hr
Mobile App Developer	$54,400.00	$80.00/hr
AI Specialist	$72,000.00	$100.00/hr
VR Development Firm	$250,000.00	
VR Hardware	$1,000,000.00	
AI Solutions Vendor	$1,000,000.00	
Content Development Team	$11,200.00	$70.00/hr
Instructional Designer	$8,400.00	$70.00/hr
Multimedia Specialists	$10,400.00	$65.00/hr
Translation Team	$6,600.00	$55.00/hr
QA Tester	$28,800.00	$60.00/hr
System Integrator	$46,800.00	$90.00/hr
Security Analyst	$10,200.00	$85.00/hr
Procurement Specialist	$27,000.00	$75.00/hr
Training Team	$5,200.00	$65.00/hr
Contingency	$500,000.00	

Figure 19: Estimated Cost details for all the resources in the project

Resource Name	Cost	Standard Rate	Reference
Project Manager -1	$192,000.00	$100.00/hr	(Project Management Institute, 2017)
Project Manager -2	$192,000.00	$100.00/hr	(Project Management Institute, 2017)
Business Analyst	$12,800.00	$80.00/hr	(International Institute of Business Analysis, 2021)
Mobile App Developer	$54,400.00	$80.00/hr	(Statista, 2021)
AI Specialist	$72,000.00	$100.00/hr	(McKinsey & Company, 2018)
VR Development Firm	$250,000.00	Fixed Cost	(Radianti et al., 2020)
VR Hardware	$1,000,000.00	Fixed Cost	(HTC Vive and Oculus, 2021)
AI Solutions Vendor	$1,000,000.00	Fixed Cost	(McKinsey & Company, 2018)
Content Development Team	$11,200.00	$70.00/hr	(Chapman, 2010)
Instructional Designer	$8,400.00	$70.00/hr	(Association for Talent Development, 2021)
Multimedia Specialists	$10,400.00	$65.00/hr	(Chapman, 2010)
Translation Team	$6,600.00	$55.00/hr	(American Translators Association, 2021)
QA Tester	$28,800.00	$60.00/hr	(icare NSW, n.d.)
System Integrator	$46,800.00	$90.00/hr	(Glassdoor, 2021)
Security Analyst	$10,200.00	$85.00/hr	(Holmes & Smith, 2009)
Procurement Specialist	$27,000.00	$75.00/hr	(Project Management Institute, 2021)
Training Team	$5,200.00	$65.00/hr	(Association for Talent Development, 2021)

Table 1: Estimated Cost details for all the resources in the project

4. Limitations and Significance

4.1. Recruitment Strategy

4.1.1. Weakness of the Proposed Recruitment Solution

4.1.1.1. Algorithmic Bias and Fairness

AI-powered recruitment platforms may introduce biases due to skewed or incomplete data, leading to unfair treatment of certain demographic groups. For example, Amazon's hiring algorithm unfairly disadvantaged female applicants, ultimately forcing the company to shut down its algorithmic decision-making process (Köchling and Wehner, 2020). This highlights the potential risks of AI reinforcing existing biases, raising concerns about fairness and inclusivity in recruitment.

4.1.1.2. Limited Engagement of Non-Tech-Savvy Volunteers and Risk of Gamification Fatigue

The strategy's focus on digital tools, gamification, and social media may alienate non-tech-savvy volunteers, particularly older or less technologically inclined individuals. The digital divide remains a significant barrier, potentially excluding underrepresented groups from accessing employment opportunities in increasingly tech-centric transportation roles (Ajayi and Udeh, 2024). Additionally, gamification elements like badges and leaderboards may cause fatigue over time, leading to decreased volunteer engagement and participation.

4.1.2 Significance of the Proposed Recruitment Solution

The proposed recruitment strategy is essential for managing large-scale volunteer recruitment for the 2028 Olympic Games. AI-powered platforms facilitate personalized role matching, reducing recruitment time and costs. Gamification engages younger, tech-savvy audiences, enhancing participation and retention through interactivity (Shree and Singh, 2019). Aligned with organizational goals, gamification attracts a diverse applicant pool compared to traditional

methods (Shree and Singh, 2019). Targeted social media campaigns capitalize on marketers' ability to reach audiences based on interests and social connections (Nadaraja and Yazdanifard, 2013), ensuring diversity and ongoing optimization through data analytics. Together, these elements will enhance volunteer recruitment and engagement, maximizing the event's success.

4.2 Training and Development

4.2.1. Weaknesses of the Proposed Training and Development IS Solution

4.2.1.1. Over-Reliance on Virtual Simulations

While VR offers immersive training, it may not fully prepare volunteers for unpredictable, real-world scenarios. As (Elendu et al., 2024) point out in clinical settings, simulations cannot completely replicate the complexities and unpredictability of real-life situations. This same limitation applies to Olympic volunteers, where unexpected situations such as technical issues or crowd panic could behave differently than in simulations, potentially leaving volunteers underprepared for on-the-ground challenges.

4.2.1.2. Technological Accessibility

Many volunteers may not have access to smartphones with VR compatibility or advanced technologies like VR and AI-driven systems. Although 54% of the global population owns smartphones (GSMA, n.d.), nearly half still do not, resulting in unequal training access and volunteer readiness. This could particularly affect inclusion and diversity, which are critical for global events like the Olympics. Older or less tech-savvy individuals may struggle with digital tools, potentially lowering the overall effectiveness of the training.

4.2.2 Significance of the Proposed Training and Development IS Solution

The proposed solution is significant as it integrates AI-powered mobile learning and VR to revolutionize volunteer training for the 2028 Olympic Games. The immersive nature of VR heightens engagement, making training more accessible and memorable (Best et al., 2024), while also exposing volunteers to real-world scenarios and helping them understand the impact of their

actions (Best et al., 2024). AI further enhances training by tailoring content to individual learning styles and performance metrics (Viterouli et al., 2024), ensuring personalized, efficient learning outcomes. This approach not only improves volunteer readiness but also maximizes resource efficiency by reducing the need for large-scale, in-person training

5. Conclusion

The proposed Information Systems (IS) solutions strategically align with the organization's goals by enhancing customer and partner engagement, product innovation, and internal processes. The AI-powered recruitment platform and targeted social media campaigns will engage a diverse pool of volunteers, offering personalized role matching and gamification elements to boost retention and satisfaction. These solutions not only attract a larger audience but also create a more interactive and enjoyable recruitment experience, ensuring long-term volunteer commitment.

From a product and service innovation perspective, the implementation of mobile learning applications and Virtual Reality (VR) simulations revolutionizes volunteer training. These tools allow for flexible, personalized learning experiences, tailored to individual volunteer needs, while providing immersive, real-world training scenarios to improve readiness. The use of AI-driven learning paths ensures that volunteers receive continuous, adaptive training based on their performance, enhancing overall efficiency.

The proposed IS solutions also streamline internal systems and processes by digitizing recruitment and training workflows. Automated platforms reduce administrative burdens, while robust data security measures ensure the protection of volunteer information. By embracing these innovative technologies, the organization can significantly improve operational efficiency, enhance engagement, and ensure the success of the 2028 Olympics.

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