# Executive Summary

This project proposal is to develop a Human Resources Management System (HRMS) for a UK based engineering company with 200 employees that is facing quality of service and compliance issues with its current outdated system. The HRMS software must automate a several HRMS features including HR administration, payroll processing, recruitment, talent management, employee data, application tracking, time and attendance management, salaries, benefits, and performance tracking, training, and development. The project must be completed within one month and within a budget of £700,000.

# Overview

I am a senior project manager at Nexus Solutions, a multinational UK based software development company. I have been assigned to manage a project to develop a Human Resources Management System (HRMS) for a large engineering company with 200 employees at three sites.

## Purpose and objectives of this proposal

The purpose of this proposal is to propose (and develop) an automated Human Resource Management System (HRMS) software for an engineering company with 200 employees at three sites that currently has an outdated manual human resource management system that is currently facing compliance and Quality of Service issues. The company has a budget of £700,000.00 for this project.

Objectives:

* Initiate project and project charter
* Create baseline plan and planning
* Perform objectives (accepted deliverables)
* Develop an automated Human Resource Management System that has the following functions:
  + HR administration,
  + payroll, recruitment,
  + talent management,
  + Employee data, recruitment, and application tracking
  + Time and attendance management
  + Payroll processing
  + Salaries, performance, and Benefits tracking
  + Training and development, and more.
* Form a project team to deliver the project within the budget and desired time frame.
* Gather Requirements for HRMS software (requirements analysis)
* Design HRMS software
* Code HRMS software
* Build HRMS software
* Test HRMS software
* Deploy and Release HRMS software
* Choose development methodology
* Organise DevOps team(s)
* Generate Cost Estimate
* Risk Assessment and Create Risk Management Plan
* Ensure good communication with stakeholders
* Decide on project strategies
* Come up with conflict resolution plan for the teams
* Close project and achieved project documents.
* Stick to £700,000.00 budget
* Must be completed within 1 month.

## Identify the problem to be solved.

Nexus Solutions has consulted with an UK based engineering company with 200 employees and three sites however they currently use an outdated manual human resources management system. This has resulted in problems such a quality of service and compliance issues. We have identified a solution for these problems by developing an automated Human Resources Management System software.

## Scope of the Project

Purpose of proposal is to develop HR management software for engineering company,

This project proposal is to develop Human Resources Management Software (HRMS) for an engineering company with 200 employees at three sites and a budget of £700,000.

Software features to be included in the scope are:

* HR administration,
* payroll, recruitment,
* talent management,
* Employee data, recruitment, and application tracking
* Time and attendance management
* Payroll processing
* Salaries, performance, and Benefits tracking
* Training and development.
* Must Address Compliance and Quality of Service issues the company faces

What Not to include:

* Any unnecessary features that the company doesn’t need to the software that will increase costs, time, and resources – Known as Gold Plating (Stellini, 2023)
* Avoid feature creep, scope creep
* Over Engineering
* Frivolous High-Risk decisions

## Explain how the project will be conducted.

For this project Agile project management will be used as this is a software development project and agile is often used for software development as its iterative nature allows for changes to be made more easily if requirements or scope changes. Agile also allows for improvements to be made throughout the project and development process based on stakeholder feedback.

There will be daily scrums where the project leaders and stakeholders meet daily with the developers, DevOps team and designers to provide feedback for to monitor progress, suggest improvements, fix mistakes, and track any requirement changes and weekly sprints where the SCRUM team will set a list of tasks for the DevOps teams to complete. There should be no more than four sprints as the project’s timeframe is one month.

The advantages of Agile project management are:

* Flexibility for changes in requirements and project scope
* Easier to fix mistakes, bugs, design, and code smells and antipatterns
* More room for creative problem solving
* Deadline Flexibility
* Increased project value to stakeholders due to regular updates

Challenges of Agile project management:

* Project can slip past the one-month deadline because of loose planning
* Risk of loose testing letting bugs, mistakes, antipatterns, code and design smells through
* Pace of project could be too fast for some team members
* Lack of focus causing project to go out of scope

The project will be conducted using the agile method stated above.

We will follow the five steps of the project lifecycle:

1. Project Initiation – Kick-off Meeting and define scope (Aston, 2024).
2. Project Planning –
3. Project Execution
   1. Team Leadership – Cast project Vision
   2. Create tasks
4. Project Monitoring and Controlling
5. Project Closure.

Key roles in this project will include:

* The steering committee led by Nexus Solutions will provide senior leadership and management for this project.
* The engineering company will be the project sponsor paying the ~£700,000 for the project. They are the project owners and the primary risk takers.
* The project manager will manage the day-to-day development, operations of the project and ensure it reaches milestones on time. The project manager will communicate with the sponsor (Nexus Solutions) to receive feedback send progress reports and make changes if requirements change
* Project team members – the consultants, designers, developers, DevOps team members, the testers, the security team, the operations team, the IT and system administrators, the project administrators, the software engineers, database developers, programmers and UI/UX designers, Tech Leads.
* User/Senior – The employees at the engineering company.

The project will employ up to 100 people with current estimates:

* 1 project manager
* 13 backend programmers
* 13 front end programmers
* 2 database developers
* 10 UI/UX designers
* 10 Testers
* 4 DevOps Engineers
* 3 Cybersecurity specialists
* 12 Software Engineers
* 6 Software designers (UML, User Case Diagrams, Class Diagrams, Entity Relationship Diagrams, Wireframes and mock-ups)
* 5 IT Administrators
* 5 Project Administrators
* 1 IT consultant
* 3 Team Leaders (One for development team, one for operations team, one for non-technical team)
* Approximately 5-10 in steering committee
* 2 Tech Leads

## Ways to measure the project’s success

I have proposed several ways to measure the success of the project at all phases of the project to make sure it is completed on time, within budget, with minimal risk and meets the stakeholders’ client’s and users’ requirements:

* Set up the 11-performance metrics that are Key Performance Indicators:
  + Time Management – Measure the actual timeline of the project against the one-month timeline using tools such as Gantt Charts, burndown charts and Kanban charts and use a metric called schedule variance to compare the actual timeline against the scheduled timeline (Donato, 2024).
  + Budget – Use a cost estimate and risk management plan for financial risks to come up with an estimated cost to see if it is within the £700,000 budget then monitor and measure actual costs against the cost estimate and budget to check if the project is still within the budget or if it has gone over budget. The client/stakeholders will be satisfied if the project is completed within the £700,000 budget however if the project is over budget then this will be problematic with the client/stakeholders and the project sponsor (Donato, 2024).
  + Project output quality and compliance – The HRMS software project must meet the desired quality standards set by Nexus Solutions, The Client (Engineering company) and national and international standards for software development and project management. Software development must meet specific quality standards including (Donato, 2024):
    - Fast response time
    - Reasonable throughput relevant to size of the engineering company and number of employees using it.
    - Good resource utilisation – Does not use up computer and server system resources unnecessarily (no excessively high CPU, GPU, Memory, Disk Space, or network bandwidth usage)
    - Must be scalable in case engineering company expands
    - Very low error rate – software must be thoroughly debugged and tested, with disaster management and backups in place.
    - Low latency
    - Use load testing metrics
    - The project must comply with the relevant UK, international and local laws, and regulations of all countries this software will operate in such as:
  + Profit – As Nexus Solutions is a private third-party company in contract with the Engineering company, the project must be profitable for Nexus Solutions where there is a profit margin after including the wages for all team members and the cost of resources. If the project overruns exceeding the one-month timeframe or the £700,000 budget is exceeded and is determined to be the fault of the project sponsor (engineering company) for example due to poor cost estimates, unrealistic timeframe or budget or the engineering company keeps adding more features that will take longer than one month then the project sponsor will be liable to pay the extra costs. If the project is delayed and takes longer than one month or the budget is exceeded and is determined to be the fault of Nexus Solutions for example they made a poor cost estimate, or due to poor management. Then Nexus Solutions will have to cover the costs as this is not a fault of the project sponsor therefore will result in a loss for Nexus Solutions. Profitability is therefore a metric of the project’s financial success (Donato, 2024).
  + Cycle time – We will use tools to monitor the project’s lifecycle as a shorter lifecycle has a better outcome for the clients/stakeholders (Donato, 2024).
  + Compatibility Development – We can measure success of this project by monitoring how many new skills the team members learnt such as learning new software, programming languages, frameworks, and software development methodologies.
  + Customer Satisfaction – Use the Customer Satisfaction Index to measure the project’s customer satisfaction by measuring its ability to meet and exceed the engineering company’s expectations in quality, outcome, delivery and to meet deadlines (Donato, 2024).
  + Project Value – The engineering company may set its own metrics for success such as making sure that the project remains within the scope and that all requirements are met (Donato, 2024).
  + Improvement – The ability to for the project teams to improve their efficiency based on analysing other project metrics (Donato, 2024).
  + Sustainability – Measuring the project’s impact on the environment, society, and economy such as monitoring the project’s carbon footprint, pollutant emissions, waste and recycling, number of people employed, energy efficiency and resource consumption and stakeholder satisfaction (Donato, 2024).
* Identify Key Performance Indicators by reviewing business and project goals and aligning them so they have an idea what success looks like and define how it will be measured. This will help stakeholders understand what success looks like by providing the necessary frameworks (Donato, 2024).
* Identify measurable factors such as meeting deadlines, staying within the budget, making a good quality product, achieving desired outcomes, and staying within the one-month time limit (Donato, 2024).
* Identify the 11 metrics (and other metrics too) listed above and prioritise them to track the project’s success. This will be based on which metrics are the most significant to the HRMS software project (Donato, 2024).
* Set up tools to measure project performance metrics – Use tools to gather data and record metrics to create a project performance report. This can include spreadsheets, project management tools such as SmartSheet, Hive, Clickup, Microsoft Excel, Microsoft Project, Questionnaires, Surveys, and forms to provide feedback from team members, stakeholders, and the client. There is a possibility to use automated software to automatically record some performance metrics, analyse metrics and generate reports. Make constant checks on the project’s performance metrics and progress (Donato, 2024).
* Communication – Use the Communications Plan to make sure project performance metrics, reports and progress is clearly communicated between team members, project managers and all stakeholders. Performance and Progress reports must be sent back to the client to help the client track the progress and send feedback and to ensure that the project is still within bounds of the client’s expectations (Donato, 2024).
* Initiation Phase (Aston, 2024):
  + Create the Project Charter to define the HRMS software project’s purpose, goals, objectives, scope, and vision.
  + Organise a Kick-off meeting with the team, client, sponsor, steering committee, and stakeholders to start the project after creating the charter, statement of work (SoW) and cost estimates and getting approval for the project.
  + Conduct feasibility study for the HRMS project case
  + Identify Stakeholders
  + Generate business case (Aston, 2024).
* Planning Phase (Aston, 2024):
  + Start project planning using project management tools such as Kanban and Gantt charts for time management and progress tracking, Network diagrams for visually road mapping how the project’s tasks are interconnected and the workflow between tasks, for successful project execution, the stakeholder register that lists all the stakeholders.
  + Create the project management plan to identify:
    - Phases
    - Activities
    - Tasks
    - Timeline
    - Schedule/Timetable
    - Work Breakdown Structure (WBS)
    - Gantt Chart
  + Create Financial Plan
  + Create Resource Plan:
    - Assemble the project teams and use resource management software to allocate resources, materials, and employees to deliver the HRMS project.
  + Create quality plan to define quality targets and metrics.
  + Create Risk Management Plan:
    - Assess, Identify, and analyse risks associated with the project
    - Prioritise the risks into Low, Medium, and High
    - Control the risks through risk management planning, Risk Monitoring and Risk Management and Mitigation Plans.
    - Assign an Owner.
  + Create an Acceptance Plan to define the definition of done and delivered.
  + Create a communication plan to plan communications with stakeholders, team members, define communication tools and plans for different types of communication.
  + Create Procurement Plan to find required third-party suppliers, sign agreements for buying or renting resources for the project (Aston, 2024).
* Execution Phase (Aston, 2024):
  + Set up team leadership, project managers and leads
  + Define Tasks what needs to be done to execute the project
  + Brief team members on their assigned tasks.
  + Execute Tasks and software development process:
    - Design, code, develop, debug, build, test, deploy and release software
  + Communicate with the engineering company (client) to ensure project is being executed in a way that meets their requirements.
  + Use the communications plan for using the correct communication channels for communicating with stakeholders about the projects progress and with team members for managing the project (Aston, 2024).
* Monitoring and Control Phase (Aston, 2024):
  + Monitor the project’s performance using Key performance Indicators (KPIs), cost, timeline, quality, performance metrics and success metrics using data from project management software and project documents.
  + This tracks and compares the actual project against its original plan.
  + Use the risk management plan to reduce associated risks.
  + Change management plan if the project doesn’t go to plan and changes are required (Aston, 2024).
* Closure Phase (Aston, 2024):
  + Evaluate project performance using performance metrics to compare project with original plan, how well was the project managed and executed, was it completed on time and within budget?
  + Did the project go according to plan, how well was it executed, did any disasters or unexpected risks occur, did anything go wrong/setbacks?
  + Evaluate team performance – Did all team members complete their designated tasks, did any problems occur such as conflict or social loafing that had to be resolved, how motivated and satisfied were they?
  + Sign off project closure documents and all contracts officially ending the project.
  + Hand project over to client (engineering company)
  + Write a post implementation review that evaluate success, failure, lessons learned and room for improvement (Aston, 2024).

# Project Approach

## Methodology:

For the project to develop the HRMS system for the engineering company, Agile project management methodology will be chosen.

This is because Agile is iterative and allows for changes to be made if requirements or scope change or if mistakes are made (Olic, 2017). Agile also allows for quicker development cycles which is important in the short one-month deadline for this project. Agile allows for better communication and feedback between the project team, the client, steering committee, sponsor, and stakeholders which results in better efficiency, better quality product and better client satisfaction as it takes place during all phases of the project. Kanban Charts will be used for time management along with the use of a Gantt chart (Good, 2023).

Agile vs Waterfall comparison table:

## Project Management Plan:

### Overview

The project will be managed using the Situational management style which is a mix of all the other management styles (Transformational, Autocratic, Democratic, Collaborative, Bureaucratic, Charismatic, Transactional (Herrity, 2023)) that varies depending on the situation. For this project a transformational management style will be used by default as it is adaptable and is compatible with the agile project management methodology and software development methodologies, is adaptable to changing project requirements, supports innovation and sets goals for team members. Transformational management is often used in the technology industry due to rapid advancements in technology and constantly having to adapt. Transformational management helps the project manager see the big picture. However autocratic management will have to be temporarily adapted in a time of crisis due to quick decision making and top-down approach however it often fails to inspire and motivate team members long-term (Miranda, 2024) .

### Roles and Responsibilities

Table of project and team member roles and responsibilities:

### Quality Assurance Processes

Quality assurance processes will be in place for this project to ensure high quality deliverables for the client. A testing team will be employed on this project to test all aspects of the HRMS software and system and will provide results and feedback to the developers, project manager, tech lead and team leader and the steering committee and client. Quality assurance will reduce technical and quality risks associated with this project (see risk management plan). Manual testing and automated testing will be used during the quality assurance process (Westland, 2022).

Manual testing will include (Testsigma, n.d.):

* Unit testing s and acceptance testing(Testsigma, n.d.).

Automated testing will include (Testsigma, n.d.):

* System testing using automated testing software such as Sonarcloud to detect bugs, design, and code smells, vulnerabilities, and software antipatterns.

The Quality Assurance Process proceeds as follows (Testsigma, n.d.):

1. Requirements Analysis – Testers will analyse functional and non-functional requirements for the project.
2. Use the requirements analysis to plan the tests including the types of tests, testing tools, testing strategy, scope and allocate tests to the testers. Tests will include (Testsigma, n.d.):
3. Design the Tests –The testers will set up a staging environment so simulate the production environment for testing (Testsigma, n.d.).
4. Run the Tests and Report Results and Issues –Document results and report any defects, errors, failed tests or bugs (Testsigma, n.d.).
5. Perform regression testing to prove that the fixes have not caused any further problems (Testsigma, n.d.).
6. Release Testing – create new staging environment adapted to the fixes made by the developers then run smoke tests to check the HRMS’s stability before releasing it (Testsigma, n.d.).

Different types of testing and quality assurance will be conducted at all stages of the project lifecycle, software development lifecycle and DevOps cycle to minimise the number of defects, improve testing efficiency and ensure a good quality product at the end of the project. This will also help reduce technical risks associated with this project.

The quality assurance process will comply with ISO 9000 standards for quality management and Capability Maturity Model Integration (CMMI) (ISO, n.d.) (ISACA, 2024).

### Project Manager Actions and balancing Accountability, responsibility, and authority in the teams

As the project manager, it is my responsibility to manage the project teams and be accountable and responsible for any decisions I make that affect the management of the HRMS system project and the roles of the team members. Also, as the project manager, I will have a high level of authority to make such decisions, however the steering committee and project sponsor will have a higher level of authority than me as they own the project. The team leaders and tech leads also have a high level of authority but to a lesser extent than the project manager. The other team members will have some authority but less than the management, leaders, steering committee, and project sponsors as they will be able to communicate and provide feedback to the management and leads. All team members will have accountability for their actions and consequences whether good or bad however the management, leads, steering committee and sponsor will have the highest levels of accountability. All team members are committed to specific responsibilities depending on their role (see Roles and Responsibilities section). All team members are responsible to follow Nexus Solutions code of conduct and any agreements and contracts they are bound by.

The project management will use situational leadership although will be transformational under normal circumstances as it motivates team members, encourages innovation and is standard for the technology industry (see Overview for details)

To get this balance right as the project manager I must:

* Lead by example by taking responsibility for my own actions, learn from mistakes
* Avoid micromanagement – do not over supervise team members’ work and obsessively tell them what to do and criticise them constantly(University of Southampton, n.d.) (Herrity, 2023).
* Set expectations for team members (University of Southampton, n.d.).
* Motivate team members by praising them for accomplishing project milestones and recognising their work(University of Southampton, n.d.).
* I must give constructive feedback to team members Project Timeline and Milestones

I have created a Gantt Chart for the project’s timeline for key phases and tasks and to compare the actual timeline of completed tasks against the planned timeline for completed tasks and for tracking progress and milestones. Red is the planned timeline and green is the actual timeline.

The Gantt Chart is available here: <https://managing-projects-and-teams-diagrams.onrender.com/static/HRMSProjectGanttChart.pdf>

# Resource Allocation

## Human Resources:

### Roles and Responsibilities of Team Members and Stakeholders

### External Resources and Expertise

External Resources will include:

* Cloud computing platforms such as Amazon Web Services (AWS) for any cloud-based aspects of the HRMS system.
* Third-party software for design, development, coding, building, testing and deployment of the HRMS system.
  + Adobe XD
  + Draw.io
  + StarUML
  + PyCharm and other JetBrains IDEs
  + Visual Studio
  + Xcode, Android Studio
  + Programming Languages - Python, HTML, CSS, SQL, JavaScript, C++, C, C#, Java, Kotlin, Swift.
  + MySQL, SQLite Studio
  + Docker, Kubernetes, AWS ECS, AWS ECR
  + SonarCloud, SonarQube
  + Postman
  + Webhosting platform e.g. Render.com
  + GitHub, Git, GitLab, AWS CodeCommit
* Third-party project, team and task management software and services.
  + Asana
  + Trello
  + SmartSheet
  + Microsoft Office, Project
  + Jira
* Third-party Communication and Collaboration Platforms.
  + Microsoft Teams for Work and School
  + Zoom
  + Microsoft Outlook
  + WhatsApp Business
  + Slack
* Third-party suppliers for computer hardware and specialist equipment/hardware for the project.

External expertise will include:

* Specialist technical support with third party software, services, and cloud computing platform.
* Specialist technical support with third party non-technical and project management software, services, and platforms.
* Customer service, technical support, repairs, and upgrades to hardware supplied externally from the manufacturer or supplier.
* Installation and setup of specialist equipment.

Budget:

### Project Cost Estimation

Project Title: Human Resource Management System for Engineering Company

Project Manager: S275931

## Expected benefits and dis-benefits of the project

From a social and community perspective the HRMS system carries several benefits for the Engineering company, its customers, and employees:

* More efficient Human Resources department.
* Less stress for Human Resources employees as repetitive, tedious, and complex tasks are now automated.
* Fewer errors with employees’ payrolls and salaries resulting in reduced financial stress at the engineering company and fewer employee disputes over pay resulting in strikes and legal action.
* Saves time for human resources employees, management and other employees through automation and streamlined management resulting in more productivity.
* A more productive engineering company can focus on creating better quality products for its customers resulting in better customer satisfaction.
* Improve project and team management for the engineering company
* Improved recruitment process
* Better job satisfaction and work motivation
* Increased productivity through improved automated time management.

# Project Management Approaches

The project will have an agile project lifecycle methodology and a DevOps software development methodology. Agile project management is popular in the technology industry including Nexus Solutions because it works well for software development and its iterative nature means that it is adaptable to changing requirements and scope therefore allows for changes to be made and mistakes to be fixed quickly and easily compared to waterfall methodology (Westland, 2021).

The software development methodology will be DevSecOps that is DevOps that includes cybersecurity as it is important in Human Resources management due to processing sensitive data. DevOps/DevSecOps is an agile development methodology that combines the development, IT operations and cybersecurity teams to work together as one. DevSecOps uses automation tools such as CI/CD pipelines, artificial intelligence, and IT automation for time consuming repetitive ad tedious tasks. DevSecOps also improves communication and collaboration between teams (Krohn, 2024) (Hall, 2024) (Microsoft, 2024).

DevSecOps advantages (Veritis, 2024) (Great Learning, 2024):

* Better Quality Assurance and Control of software products including threat detection
* Cybersecurity is included unlike DevOps and other methodologies
* Improved early detection of software vulnerabilities
* Faster development and deployment times
* Hand software over to engineering company more quickly
* Increased profits for Nexus Solutions
* Better customer service and satisfaction
* Easier collaboration between teams, team members, management, stakeholders, sponsor, and steering committee (Veritis, 2024) (Great Learning, 2024).

DevSecOps disadvantages (Veritis, 2024) (Great Learning, 2024):

* Shortage of DevOps/DevSecOps engineers
* Expensive to set up a DevSecOps environment
* Problems with automation, containerisation, cloud computing and CI/CD pipelines due to inexperience with DevSecOps
* Due to the speed of DevSecOps, some vulnerabilities are missed making the HRMS software vulnerable to cyberattacks, hackers and malware.
* DevSecOps intends to deploy the application as soon as possible therefore vulnerabilities may only be detected after deployment based on client feedback.
* DevSecOps methodology fails if communication breaks down by team members withholding critical information from other team members (Veritis, 2024) (Great Learning, 2024).

## Conflict Resolution Strategies

During this project there is a likely risk of conflict between (approximately 100) team members which can result in:

* Reduced team morale and no motivation to work
* Tensions between team members, management and stakeholders
* Arguments, altercations, confrontations, and disputes in the workplace between team members and management.
* Violations of code of conduct
* Paranoia and distrust in the team
* Strikes, protests, and industrial action
* Lack of productivity due to time wasted on arguments instead of getting tasks done
* Delays for project timeline and missing deadlines
* Poor management and decisions
* Resignation of team members
* Legal action and disputes
* Team members getting fired
* Office politics
* Social loafing.
* Harm to project’s, team’s, management’s and Nexus Solutions’ reputation and negative publicity
* Breakdown in essential communications – team members refusing to communicate, sending abusive messages, calls, and content to each other, cyberbullying, blocking, and ghosting each other.
* Bullying, harassment, and intimidation of team members.

Conflicts and disputes between team members are caused by (Abbas, 2022) (Cote, 2023):

* Different opinions, perceptions, views, and personalities (especially over contentious topics)
* Cultural, background, political and social differences between team members.
* Perceptions of discrimination, unfairness, feeling singled out or marginalised.
* Poor communication skills
* Misunderstanding and misinterpretation
* Biased team members and stakeholders and stereotyping
* Stress at work
* Bullying
* Competition between team members
* Office politics
* Poor leadership and management
* Fear of change
* Different working styles
* Limited resources (Abbas, 2022) (Cote, 2023)

It is therefore important to have conflict resolution strategies in place to avoid and resolve conflict to have a productive and motivated team, maintain Nexus Solutions reputation, deliver a good quality product, and have good client satisfactions and avoid negative consequences listed above. Different conflict resolution strategies will be used dependent on the conflict.

Conflict Resolution Strategies:

1. Avoidance –This is best for conflicts that occur outside of the project or work however avoidance is not recommended for causes of conflict within the project or workplace as not resolving these issues can have a detrimental impact on the team and the project as these issues can escalate unnoticed (Cote, 2023).
2. Competition –This involves placing a high importance on the projects goals and a low importance on team members and focuses on being assertive and not cooperative. The disadvantages are that it harms trust, creativity, productivity, and collaboration (Cote, 2023).
3. Accommodating – This is useful when the relationship between people is more important than the goals of the project for example conflict resolution between the project management at Nexus Solutions and the engineering company, steering committee and the project sponsor. Poor relations between Nexus Solutions and clients could cause clients to choose a competitor software development company instead of us (Cote, 2023).
4. Compromising – resolving a conflict by making all conflicting parties forfeit achieving their full goals and is therefore a lose-lose method. Works best when you must maintain good relationships with stakeholders and team members but must not fully abandon project’s goals (Cote, 2023).
5. Collaborating – This is usually the most suitable conflict resolution method for work and project related conflicts therefore will be the default resolution strategy (Cote, 2023).

As the project manager, I have the following responsibilities to prevent and resolve conflicts:

* Rights – Human and employee rights must be maintained for stakeholders: Equal pay, receive payslips, not be discriminated against, health and safety for a safe workplace, sick pay, request flexible working, protection from unfair dismissal, maternity leave (Manak Solicitors, n.d.).
* Wellbeing – Ensure and safeguard team members’ physical, mental, and emotional wellbeing. Provide counselling, mentoring, first aid, external help and statutory sick pay if needed (Cote, 2023).
* Duties – I must behave in a legal, moral, ethical, and acceptable manner and obey the code of conduct. I must also ensure the team members are behaving in an acceptable manner and not engaging in wrongdoing (Cote, 2023).
* Fairness – I must ensure all team members are treated fairly (Cote, 2023).
* Best Practice – I must meet aspirational standards for the project and team members (Cote, 2023).

## Risk Management Plan

## Five most significant risks affecting this project

The five highest risks associated with project are:

1. Project over budget and unexpected costs resulting in the Engineering company expected to pay extra costs and loss of profit for Nexus Solutions. This could result in financial disputes between stakeholders.
2. 1 month deadline missed and delays resulting in dissatisfaction and disputes with the client, steering committee, and project sponsor. Extra costs must be paid for.
3. Issues with code, design, bugs, and defects after handover to engineering company
4. Data loss resulting in loss of valuable work on project including code, designs, software, documentation, paperwork, and databases.

## How these five risks will be managed

The following above-mentioned risks will be managed by:

1. Project over budget and unexpected costs – Prioritise cost estimate and cost management, use well trained personnel for cost estimates and management, use accurate cost estimation and management software. If cost estimate is likely to exceed budget, negotiate with the project sponsor and steering committee.
2. 1 month deadline missed and delays – Make time management a priority, employ multiple team members on time consuming tasks and project phases, make accurate time estimates, negotiate with project sponsor and steering committee if project is likely to exceed deadline
3. Issues with code, design, bugs, and defects after handover to engineering company – Use quality assurance and quality control and test software to make sure it is to a high standard, hire software testers, use automated and manual testing.
4. Data loss – Back up data, disaster proofing, data encryption with recovery keys, use reliable hardware and software, Git version control, cybersecurity software, keep systems updated, Identity and access management.
5. Conflict between team members – Use conflict resolution plan.

# Communication Plan

# Conclusion

In conclusion, I consider that the HRMS will significantly improve the Human Resources department at the Engineering Company. This will resolve the engineering company’s quality of service and compliance issues, speed up and automate several HR processes making the Human Resources management process more convenient, faster, and reliable. Regarding the management process, I have concluded that the agile project management methodology is the best for this project due to its speed, agility and adaptability allowing changes to be made based on feedback from client, software testers and team members. It is easier to fix mistakes, design, and technical flaws in agile project management. For the software development methodology, I have chosen DevSecOps due to prioritising security, rapid development and deployment, improved collaboration and communication, continuous integration and development and increased efficiency and productivity. For the team management approach, I have chosen transformational leadership as the main leadership approach because as it leads to better innovation, performance, productivity, wellbeing and sense of empowerment and boosts team morale and will likely reduce the risk of conflict happening.

# References