**ShiftPlannet**

Orin Gavriel 318774338

Or Goren 314619115

Yehonatan Mekayten 213637424

### Business Case & Project Charter

**Problem statement:**

Traditionally, shift management involve manual work or multiple platforms.  
This often leads to miscommunication, delays, and extra administrative work .  
The project is being developed to solve inefficiencies and communication challenges in the workplace, particularly around shift scheduling, vacation management, and shift coverage.

**Market research:**

Nowadays there are several communication platforms between employees and their managers.  
There are apps that have been designed to submit, organize and publish shifts to workers as shiftOrgainzer, shiftsMaster and more. Other apps also combine submitting vacation or shift switching requests.  
For work-related updates, companies who have workspace apps can publish their updates there or update the employees via WhatsApp. WhatsApp is also used as a platform for submitting and publishing shifts.  
Although the platforms mentioned above are legitimate for operating and managing the workforce, our app will combine all components mentioned to offer an easy, quick and comfortable solution for communication between employees and managers and all in one app.

**Purpose and objectives:**

ShiftPlannet is a workforce management app designed to ease scheduling and communication between employees and managers. It provides a comfortable platform where users can submit and organize shifts, request vacation/sick days, ask for shift replacements, upload important updates, and of course get immediate notifications about any move.

**Benefits impact and other solutions considered:**

While there are existing solutions that address vacation requests and shift replacements, there is room for improvement in automation, visibility, and flexibility.  
The app will improve user experience and will make the workflow more efficient and smoother for both employees and managers, saving time, reducing errors, and improving operational efficiency.

* Improve Shift Management Efficiency:  
  Streamline the shift scheduling process, reducing the time spent on manual scheduling or managing through several platforms.
* Enhance Vacation and sick Day Management:  
  Allow employees to submit days off requests through the app and track their approval status. Managers will be able to review and approve the requests in real-time.  
  The app consolidates this into one system, offering clarity and reducing delays.
* Enable Shift Replacement Requests:  
  Finding shift replacements often involves back-and-forth communication through email, phone calls, or informal methods. This can be inefficient and prone to errors. . The app simplifies this process, making it easy for employees to find replacements and for managers to approve them in one place.
* All interactions and updates will be visible in real time, ensuring that no information falls through the cracks.

### Alternative Solutions Considered:

Existing solution is the use of existing shift scheduling Software, use regular communication apps (as WhatsApp) or use Spreadsheets and Manual Scheduling.  
The decision to develop a custom mobile app that integrates shift scheduling, vacation day requests, approval workflows, shift replacement requests and work-related updates was accepted to fully customize the solution to the specific needs of shift-based organizations.  
Key advantages include:

* Tailored Features: The app is designed specifically for publishing updates, managing shifts, time-off requests, and replacements, offering an all in one app solution compared to general scheduling or task management tools.
* Mobile Accessibility: a mobile app provides the most convenient way to access schedules, submit requests, and communicate in real-time.
* Automation and Efficiency: The app offers automated features like vacation approval tracking and shift replacement requests, reducing manual work for both employees and managers and minimizing human error.
* Centralized Communication: All shift-related requests, approvals, and communications are handled within the app, ensuring transparency and real-time updates.

By offering an all-in-one solution that meets the specific needs of shift management, this app significantly improves productivity, reduces administrative burden, and enhances the overall user experience for both employees and managers.

**Resources:**

1. Team Expertise:  
   Creating an app requires knowledge in developing apps and also skills in databases and designing to ensure the app's functionality and performance making it user-friendly and easy.  
   The Extensive Knowledge is also required to create the app fast with minimum bugs.
2. Technology:  
   Development Tools and programs are needed for building the app correctly and in the most efficient way.
3. Facilities:  
   Workspaces equipped with high-speed internet, collaboration tools (and development systems to develop the app and Testing Devices (android smartphones) to test the app’s compatibility and performance.

### Statement of Work (SOW)

### Vision Statement:

The vision for the Shift Management App is to create a user-friendly solution that simplifies shift scheduling, days off requests, and shift replacement management.  
The app will streamline administrative tasks, improve the efficiency of scheduling processes, and ensure that employees and managers have easy access to the tools they need to stay organized and informed. Ultimately, the goal is to create a more efficient, transparent, and accessible way for employees and managers to interact around shift management and time-off requests.

### Scope of Project:

The project will develop a mobile app with the following capabilities:

Included in Scope:

1. Shift Scheduling: Employees can view their shift schedules, request shift changes, and check availability. Managers can create and edit shift schedules.
2. Vacation and Time-Off Management: Employees can submit vacation requests and check the status of their approval in real-time.
3. Shift Replacement: Employees can request shift replacements, find potential substitutes, and request manager approval for shifts.
4. Notifications: Push notifications and in-app alerts for shift changes, vacation requests, and approvals.
5. User Interface: Intuitive, mobile-friendly UI for both employees and managers.
6. Security: Ensuring secure user authentication and data protection (compliance with GDPR, encryption, etc.).

Excluded from Scope:

1. Payroll Integration: The app will not manage payroll, wage calculation, or benefits.
2. HR Management: Comprehensive HR management features (e.g., onboarding, performance tracking) will not be part of this project.
3. Advanced Scheduling Algorithms: The app will not include AI-driven optimization or complex scheduling algorithms.
4. Full Customization for Organizations: Custom workflows and features outside the predefined ones will not be supported initially.

### Scope of Work:

1. Planning and Requirement Gathering:

* Finalize features, user stories, and requirements for the app based on market research.
* Create project plan, timelines, and allocate resources.

1. Design Phase:

* Design user interface (UI) and user experience (UX) based on gathered requirements.
* Validate design with end-users to ensure usability.

1. Development Phase:

* Front-end development for iOS and Android, ensuring mobile optimization.
* Back-end development for data storage, user management, and shift scheduling logic.
* Implement vacation request, shift replacement, and approval workflow features.
* Integration with external systems (e.g., HR, calendar, payroll tools if needed).

1. Testing Phase:

* Conduct unit testing, integration testing, and usability testing.
* Address bugs and issues identified during testing.

6. Post-Launch Support:

* Monitor app performance and fix any immediate issues.
* Collect feedback from users and prioritize updates and improvements.
* Offer technical support and continue iterative improvements based on user feedback.

### Key Features:

1. Vacation/sick days requests:

* Employees can request vacation or sick days via the app .
* Managers are notified instantly and can approve or deny with feedback. any decision is notified back to the employee.

1. Shifts organization:

* Employees can submit shifts to their managers
* Managers can organize the shifts and publish them to the workers- they will get a notification when published.
* Employees can request a shift replacement : when one employee requests a replacement others will get a notification and can approve. The manager is notified about any change and can deny or approve .

1. Updates publishing:

* Managers can publish work-related updates
* Employees are notified about and work update published

1. Push Notifications and Alerts: Real-time updates for shift changes, requests, and updates.
2. User Profiles and Permissions:   
   Different access levels and features for employees and managers.

### Constraints:

1. Knowledge limitation- learning a new and unfamiliar program to encode and design the app.
2. Technology Constraints: The app will be built using standard mobile development frameworks and is limited to android users only .
3. Time Constraints: The project needs to be completed within8 weeks to ensure it is ready for deployment and adoption.
4. Budget limitations- some of the app's features may cost money which may limit our project. The projects should cost no money and use technologies that will support that.

### Dependencies:

1. Third-Party Integrations: The app may require integration with external tools or systems such as HR management software or payroll systems.
2. App Store Approval: The deployment of the app to the Apple App Store and Google Play Store is dependent on their review and approval process.
3. Feedback from Users: Continuous feedback from employees and managers during testing and post-launch will inform adjustments and feature improvements.

### Deliverables:

1. Mobile Application: Fully functional app for iOS and Android platforms.
2. Documentation: User guides, admin manuals, and technical documentation.
3. Training Materials: Tutorials and onboarding resources for users (employees, managers).
4. Project Reports: Status updates and final project report, including bug fixes, updates, and feedback summaries.
5. Post-Launch Updates: Regular maintenance updates, bug fixes, and feature enhancements.

### Timeline:

* Planning and Requirements: 17.11.2024 to 20.11.2024 – 3 days.
* Design Phase: 21.11.2024 to  – 28.11.2024 1 week.
* Development Phase: 29.11.2024 to 29.12.2024 – 4 weeks.
* Testing Phase: 29.12.2024 to 2.1.2024 – 3 days.
* Implementation and Deployment: 3.1.2024 to10.1.2024 – 2 weeks.
* Post-Launch Support: Ongoing after launch.

### Performance Criteria:

1. Functionality: The app must meet all functional requirements outlined in the scope, with all key features fully operational.
2. Usability: The app should be user-friendly, with clear navigation and minimal learning curve for employees and managers.
3. Performance: The app should load quickly, respond to user inputs without delays, and work efficiently on all supported devices.
4. Security: The app must comply with data protection regulations, ensuring secure user data storage and communication.

### Risk Management:

1. Technical Integration Challenges- The app may face integration challenges with existing systems, such as HR software, scheduling tools, or payroll systems, particularly if these systems are outdated or complex.  
   To manage this difficulty, we need to conduct technical research and feasibility studies to identify potential integration points early in the development process and ensure that the app is flexible enough to support feature integration.
2. User Adoption and Engagement- Employees and managers may be resistant to adopting a new system, especially if they are already accustomed to manual processes or another existing tool so the app needs to be clear and user-friendly for quick and easy adjustment.
3. Budget and Resource Constraints- The project may face delays or go over budget due to unforeseen technical challenges or resource shortages.  
   To manage this difficulty, we need to set realistic timelines and do a research to check all our options to complete the task. Prioritizing features and planning the app to details is crucial to overcome this limitation.
4. Compatibility and Performance Issues- The app may encounter issues with compatibility on different devices, operating systems, or network conditions, potentially affecting user experience and performance.  
   To manage this difficulty a cross-platform testing is required to ensure compatibility and also a tutorial/meeting clearing the app’s use.

By identifying and proactively addressing these risks, the project team can reduce the likelihood of major disruptions and ensure a smoother development and deployment process for the app.

### Feasibility Study Report

### Technical Feasibility:

* Flutter or React Native for app development across platforms(IOS and Android) for the frontend.
* Firebase and AWS for data storage, user verification and group management.
* Firestore(in case of use of Firebase) or MySQL for scalability, speed and efficiency.

### Operational Feasibility:

Improve shift management efficiency by providing employees an easy way to find shift replacements, submit days off requests through the app and track their approval status by getting notifications in real time. The app also makes the managers progress easier by gathering all the features they need into one place.

**Financial Feasibility:**

#### **Assessment:**

1. Development Time: 8 weeks.
2. Team Size: 3 developers -  frontend, backend, UI/UX, QA.
3. Hourly rate: $100/hour.
4. Weakly Hours: 25 hours per team member.

#### **Cost Calculation:**

Total Development Hours:

3 developers 25 hours/week 8 weeks = 600 hours

Total Development Cost:

600 hours $100/hour =$60,000

#### **Financial Metrics:**

Net Present Value (NPV): Assuming each business location service is $100 per month. Let's say that we will have 50 businesses who use our services(Hopefully more). We will have an revenue of $60,000/year over 3 years with a 10% discount rate).

Return On Investment (ROI):

ROI = 180,000 - 60,00060,000100200%

The project is technically and operationally feasible. With an investment of **$60,000** and a high ROI of  **200%**, it promises significant financial returns and streamlined operational benefits within a short 8-week timeline.

### Stakeholder Analysis Document

**Stakeholders List:**

1. Project sponsor - a senior executive or manager who provides the necessary resources and support for the project. project sponsors may be a manager or a team leader from a business needing the app or an investor providing financial backing for the development.
2. Project Team Members: responsible for the design, development, testing, and deployment of the app.
3. End-Users-  the employees and managers who will use the app on a daily basis.

* The employees who will use the app to request shifts, days off and replacements.
* The managers who will receive requests to approve or deny with feedback and publish work arrangements .

**Interests and Expectations:**

* Project Team Members: we are interested in delivering the application on time with all functional requirements and features outlined in the project scope.
* End-Users:

1. The employees using the app expect a smooth and easy-to-use platform. They want the app to allow them to quickly send shift constraints and request shift replacements or days off and also track their requests status.
2. The managers are interested in an efficient tool to manage employee requests for vacations, shift replacements, and shift constraints and expect to receive real-time notifications about the submitted requests. Moreover, managers should be able to publish the finalized work arrangement in the app and important updates. The app should streamline their workflows, reduce manual processes, and ensure that team schedules are managed effectively.

* Project sponsor: Expect the application to improve efficiency by reducing communication between employees and managers and manual scheduling. He is looking for data about the app’s effectiveness worth and earnings.

**Communication Plan:**

* Project team members:  
  Communication Channels: Meetings, Zoom, Github Whatsapp.  
  Frequency: Weekly meetings and daily updates.  
  Content/Focus: Project status, progress updates, deadlines and any issues that require attention.
* Project sponsor:  
  Communication Channels: Email, Meetings, Reports  
  Frequency: Bi-monthly or quarterly  
  Content/Focus: Key performance metrics, ROI, feedback on app effectiveness and operational improvements.
* End Users:  
  Communication Channels: Email, Meetings, app notifications, Surveys  
  Frequency: monthly or as new features are released  
  Content/Focus: announcements of new features and collection of feedback.