Bonus Buddy: Gamifying Workplace Productivity PM2

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1 SCRUM MEETING NOTES

1.1 Sprint Planning

- **Sprint Goal**: Develop detailed specifications for task tracking, reward distribution, and privacy considerations in the system.
- **Selected Tasks**:
  - **Task 1**: Outline key requirements for task tracking and user engagement metrics (Assigned to Kenneth Lao).
  - **Task 2**: Design a conceptual model for reward distribution and user motivation factors (Assigned to Zachary Beritt).
  - **Task 3**: Create initial UI mockups for the dashboard layout and reward visibility (Assigned to Albert Essiaw).
  - **Task 4**: Research privacy requirements and anonymization methods for employee data tracking (Assigned to Qitao Yang).
- **Backlog Adjustments**: Prioritize creating a structured outline of the leaderboard feature in the next sprint.

1.2 Daily Scrum Updates (Weekly Summary)

- **Kenneth Lao**:
  - **Day 1**: Drafted outline of core requirements for task tracking.
  - **Day 2**: Added detailed metrics for user engagement.
  - **Day 3**: Refined requirements based on team feedback.
  - **Obstacles**: Needs additional input on engagement metrics.
- **Zachary Beritt**:
  - **Day 1**: Outlined reward types and levels.
  - **Day 2**: Adjusted reward model based on research on motivation.
  - **Day 3**: Mapped reward progression to task difficulty.
  - **Obstacles**: Challenges in defining fair reward levels without excessive complexity.
- **Albert Essiaw**:
  - **Day 1**: Developed initial dashboard UI concepts.
  - **Day 2**: Refined mockups with feedback on clarity.
  - **Day 3**: Added placeholder elements for task and reward display.
  - **Obstacles**: Requires input on prioritizing specific UI elements.
- **Qitao Yang**:
  - **Day 1**: Researched workplace privacy standards.
  - **Day 2**: Documented data anonymization best practices.
  - **Day 3**: Prepared a draft privacy approach for team feedback.
  - **Obstacles**: Finalize privacy approach on buddy system.

1.3 Sprint Review

- **Completed Tasks**: Requirements for task tracking, reward distribution model, preliminary UI mockups, initial privacy strategy draft.
- **Incomplete Tasks**: Leaderboard feature outline, privacy compliance finalization.
- **Feedback**: Prioritize clarity in reward levels and improve dashboard intuitiveness.

1.4 Sprint Retrospective

- **What Went Well**:
  - Solid foundational planning for requirements and privacy.
  - Effective team feedback loops for UI and reward concepts.
- **What Could Be Improved**:
  - More detailed specifications for engagement metrics.
  - Additional focus on practical privacy solutions.
- **Action Items**:
  - Gather more feedback on engagement metrics.
  - Schedule a meeting discussion on privacy standards for employee data tracking.

2 REQUIREMENTS ANALYSIS

2.1 Non-Functional Requirements

- **Performance Requirement:** The system should be able to handle up to 500 simultaneous users without a decrease in response time.
- **Security Requirement:** All user data must be encrypted both in transit and at rest to ensure confidentiality.
- **Usability Requirement:** The system interface should be intuitive, with a maximum of three steps for task creation to reduce user effort.
- **Scalability Requirement:** The system should support adding new users, teams, and tasks without requiring downtime or major code changes.
- **Reliability Requirement:** The system should have 99.9 percent up-time, excluding scheduled maintenance.

2.2 Functional Requirements

- **Functional Requirement 1:** Increase individual motivation to complete specific workplace-related tasks.
- **Functional Requirement 2:** Motivate employees to complete extra activities to receive specified incentives by employers.
- **Functional Requirement 3:** Allow employers to create custom incentives and rewards to distribute for employees by completing tasks.
- **Functional Requirement 4:** Allow employees to compete on task completion with a public leaderboard and achievement system.
- **Functional Requirement 5:** Increase overall workplace productivity and collaboration when implemented.

2.3 Use Cases

2.3.1 Use Case 1: Create a Task.

- **Primary Actor:** Project Manager
- **Goal:** Create a new task for team members.
- **Preconditions:** The Project Manager is logged in and has the appropriate permissions.
- **Postconditions:** The task is saved and visible to team members.
- **Basic Flow:**
(1) Project Manager navigates to the "Create Task" section.
(2) Project Manager enters task details, including name, description, difficulty level, and reward points.
(3) Project Manager specifies employees or teams assigned to the task.
(4) Project Manager submits the task.
(5) The system confirms task creation and displays it on the team's dashboard.

2.3.2 Use Case 2: Complete a Task.

- **Primary Actor:** Employee
- **Goal:** To mark a task as complete and receive associated rewards.
- **Preconditions:** Employee is logged into the system, assigned to a task, and has completed it.
- **Postconditions:** The task is marked complete, and the employee's reward points are updated.
- **Basic Flow:**
(1) Employee navigates to their list of tasks.
(2) Employee selects a task marked "In Progress."
(3) Employee marks the task as "Complete" and adds any required completion notes.
(4) The system updates the employee's reward points and marks the task as complete.
(5) The system updates the leaderboard with the employee's new points.

2.3.3 Use Case 3: View Leaderboard.

- **Primary Actor:** Employee
- **Goal:** To view the leaderboard and compare task completion performance with colleagues.
- **Preconditions:** Employee is logged into the system.

- **Postconditions:** The leaderboard is displayed, showing ranks and points of all employees.
- **Basic Flow:**
(1) Employee selects the "Leaderboard" option from the dashboard.
(2) The system retrieves and displays a list of employees ranked by points.
(3) Employee views their rank relative to others.
(4) Employees can filter the leaderboard to view specific teams or timeframes.

2.3.4 Use Case 4: Customize Rewards.

- **Primary Actor:** Project Manager
- **Goal:** To set up or customize rewards employees can earn through task completion.
- **Preconditions:** Project Manager can access reward settings.
- **Postconditions:** Customized rewards are saved and available for selection in future tasks.
- **Basic Flow:**
(1) Project Manager navigates to the "Rewards" section.
(2) Project Manager selects "Create New Reward" or chooses an existing reward to edit.
(3) Project Manager enters or updates details, including reward name, description, and points required.
(4) Project Manager saves the reward.
(5) The system updates the rewards list, making it available for selection when assigning tasks.

2.3.5 Use Case 5: Track Team Productivity.

- **Primary Actor:** Business Executive
- **Goal:** To track productivity across different teams and gain insight into project progress.
- **Preconditions:** Business Executive is logged into the system and has access to team reports.
- **Postconditions:** Productivity data is displayed for review, showing task completion and performance metrics.
- **Basic Flow:**
(1) Business Executive navigates to the "Reports" or "Analytics" section.
(2) The Executive selects the desired team or department.
(3) The system retrieves and displays metrics, including completed tasks, pending tasks, and overall progress.
(4) Executive reviews productivity insights and identifies high- and low-performing areas.
(5) Executive optionally exports the report for further analysis.

3 REQUIREMENTS SPECIFICATION

3.1 User Stories

3.1.1 User Story 1.

- **As a Project Manager**, I want to increase workplace motivation so that our team will work more efficiently and structured.
- **Acceptance Criteria:**
(1) Team leaders can create and manage a team of employees

(2) Team leaders can specify tasks and their respective incentives
(3) Team leaders can promote employees to assist in managing the platform
(4) Application integrates with common software development platforms such as GitHub, Jira, etc. to streamline task completion process

3.1.2 Effort Estimation for User Story 1.

- **Subtasks:**
  – **[3]** Create a role based system for teams (leader, manager, user)
  – **[3]** Create an automated system for detecting task completion
  – **[6]** Integrate with external software tool APIs
- **Total Effort:** 12 points
- **Explanation:** Role based systems would require changes to the database as well as some additional UI components to change these roles. This would take a few days. The integration with software platforms is a significant burden as it requires going through each platform's APIs and creating integrations with each. The overhead of setting this up would require creating an interface for these APIs, but actually integrating these APIs would take a day or 2 for just one platform. This would most likely be a long-term project, adding more services as time goes on.

3.1.3 User Story 2.

- **As a business executive**, I want to visualize the productivity of several teams so that I can determine overall project progress.
- **Acceptance Criteria:**
  – Allow users to oversee several teams
  – Provide a summary of overall and individual team progress

3.1.4 Effort Estimation for User Story 2.

- **Subtasks:**
  – **[2]** Allow users to own several teams
  – **[5]** Create progress summaries for individuals and aggregate summaries
- **Total Effort:** 7 points
- **Explanation:** Allowing users to be a part of several teams is a task for the database, and shouldn't take long. This may interfere with the permission system however. Summary dashboards could require a lot of work on to create the UI, but the database work would just require simple queries.

3.1.5 User Story 3.

- **As a software engineer**, I want to increase my motivation so that I can work more effectively.
- **Acceptance Criteria:**
  – Increase motivation for developers
  – Allow developers to compete with each other

3.1.6 Effort Estimation for User Story 3.

- **Subtasks:**
  – **[1]** Give toggleable motivational reminders throughout the work day

– **[3]** Create custom achievements for task completion
– **[3]** Create a leaderboard system between employees
- **Total Effort:** 7 points
- **Explanation:** Motivational reminders is simple since it just requires a random reminder. Achievements and leaderboard both require time as the UI components would need to be created for each.

3.1.7 User Story 4.

- **As a Human Resources (HR) Manager**, I want to monitor employee engagement with the task management system so that I can identify areas where employees may need additional support or encouragement.
- **Acceptance Criteria:**
  – Employee Engagement Report: HR Manager can view weekly and monthly engagement reports.
  – Detailed Task Completion Data: Reports include information on completed, pending, and overdue tasks.
  – Employee Participation Metrics: System provides metrics on individual and team participation levels.
  – Exportable Data: HR Manager can export reports for further analysis in spreadsheet format.

3.1.8 Effort Estimation for User Story 4.

- **Subtasks:**
  – **[2]** Create engagement tracking database tables for employee actions within the system.
  – **[3]** Develop weekly and monthly report generation modules to compile and visualize engagement data.
  – **[3]** Design an export feature to output reports in a spreadsheet format.
- **Total Effort:** 8 points
- **Explanation:** The effort required for this user story involves several key components. Modifying the database schema to include engagement tracking tables will take approximately 2 points of effort, as it involves relatively minor changes to record employee actions and their timestamps. Developing the report generation modules, estimated at 3 points, will require collating engagement data into summary statistics, with filtering options for weekly and monthly views. Finally, creating an export feature to generate spreadsheet reports will require about 3 points of effort, as it involves implementing file generation functionality and designing a user interface component to allow HR Managers to download these reports easily.