WeWorkFiveTimesAsHard:
PROJECT MANAGEMENT TOOL

BUSINESS REQUIREMENTS & TEST PLAN

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REVISION HISTORY

Version #	Primary Author(s)	Description	Date
1.0	Team 5	Initial Draft	4-19-2020

INTRODUCTION

USER PROBLEM/PROJECT BACKGROUND

The current rise of remote workers calls for an improved platform for team collaboration. A project management tool that allows participants to task progress, provide peer-feedback, and communicate with one another all on one platform would allow for efficient and effective remote teamwork

GOALS OF THE PROJECT

The project management tool will allow for team members to clearly define and track the tasks needed for project completion, communicate with one another during their work, and provide feedback to one another and managers all in one centralized place. Providing these features in one location will allow for a more organized project workflow which will increase efficiency among workers, especially in remote scenarios.

SYSTEM SCOPE

In response to the increased need for remote working platforms, we will be creating a project management tool that allows for the communication and distribution of tasks between users all in one organized location. The web application will be available to users in both professional and academic settings, and will allow for the creation and monitoring of both projects and project tasks that can be assigned to users. After creating their profiles, users will be able to communicate with one another through a messaging system and provide peer feedback in order to evaluate one another. This product will be created within DePaul's 10-week Spring quarter.

CLIENT, CUSTOMER, AND OTHER STAKEHOLDERS

- **Client:** DePaul University, Professor
- **Customer:** This product can be utilized in both professional and academic settings for teamwork on any project.
- **Other Stakeholders:** N/A at this time, IPO 1st Quarter 2021 (planned).

USERS OF THE PRODUCT

- Administrators: Users that are in charge of the organization using the tool are granted permissions that allow them to oversee all the users and projects in the system. Administrators have the ability to create users and specify their titles and permissions. They can both promote and remove/fire users from their positions. These users will be able to assign all workers to appropriate managers.

- Managers: Managers are granted permissions that allow them to oversee all the projects they supervise and all the users that work under them. They have the power to create and delete projects, modify them, and assign workers to them. Additionally, they have access to all the feedback workers leave on tasks, and they can generate reports that summarize project progress and Worker contribution. Managers can communicate to all users using messaging system
  .
- Workers: Workers are regular users that are supervised by specific managers and assigned to appropriate projects. They can view the projects they are assigned to, and all the project tasks that must be completed. Workers can claim tasks they wish to complete, and change the status of the tasks accordingly. They can view the tasks that other workers have chosen to complete, and leave feedback on these tasks upon completion. Workers can gather points by completing tasks (based on difficulty of task and quality of work) and providing peer feedback. Workers can communicate

to all other users using messaging systems.

ASSUMPTIONS AND OTHER RELEVANT FACTS

Our product's requirements were created under the assumption that teams are organized in a hierarchical structure in which there are users (managers) that supervise other users (workers). It is also assumed that the projects being tracked can be split up into comprehensive tasks that can then be assigned to workers to complete. Additionally, since our product will be a web application, it is assumed that all users will have the appropriate hardware and software to be able to access and use the tool.

BUSINESS REQUIREMENTS

Requirement ID	R-001
Status	New / **Agreed-To** / Baselined / Rejected
Description	Users will come in 3 forms - Worker, Manager, Administrator
Rationale	The type of user will dictate the kinds of permissions the user has, including the ability to create projects, add users, and, assign users to projects and tasks, and
Source	
Source Document	
Acceptance/Fit Criteria	Different user type can be created, they have different permissions
Dependencies	
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-002
Status	New / **Agreed-To** / Baselined / Rejected
Description	Users will all be able to log-on to the system. Users will have a unique username and chosen password.
Rationale	Each user should have a private account that they have access too.
Source	
Source Document	

Acceptance/Fit Criteria	Users can log on with their username/password.
Dependencies	R-001
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-003
Status	New / **Agreed-To** / Baselined / Rejected
Description	Messaging feature that allows users to send and receive messages
Rationale	Allows for communication between users, aids in productivity
Source	
Source Document	
Acceptance/Fit Criteria	User #1 can send message to User #2. User #2 receives message.
Dependencies	R-001
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-004
Status	New / **Agreed-To** / Baselined / Rejected
Description	Documentation and presentation of project, including a unique ID, description, due date, list of users, list of tickets.
Rationale	Documents the projects being worked on, allowing users to easily keep track of and view different assignments.
Source	
Source Document	
Acceptance/Fit Criteria	User can access and view project they have been assigned to
Dependencies	

Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-005
Status	New / **Agreed-To** / Baselined / Rejected
Description	Documentation and presentation of project tasks as Tickets, including a unique ID, description, due date, assigned user, and status (To-Do, In-Progress, Completed) s.
Rationale	Documents the project tasks that must be accomplished by assigned users, allowing users to easily keep track of and view different assignments.
Source	
Source Document	
Acceptance/Fit Criteria	User can access and view project tickets on projects they have been assigned to, User can work on and change status of tickets they have been assigned to
Dependencies	
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-006
Status	New / **Agreed-To** / Baselined / Rejected
Description	Feedback system that allows for users to provide feedback on completed project tickets. The reviews will include a rating paired with written feedback/justification. Feedback details will be available to managers and users being evaluated. Average rating will be available to all users assigned to the project.
Rationale	The type of user will dictate the kinds of permissions the user has, including the ability to create projects, add users, and, assign users to projects and tasks, and
Source	
Source Document	
Acceptance/Fit Criteria	1. User is able to provide feedback on completed task 2. User assigned to task can view feedback 3. Manager can view feedback
Dependencies	

Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-007
Status	New / **Agreed-To** / Baselined / Rejected
Description	Data Visualization - Report generated showcasing ticket distribution, ticket progress, user assignments, worker points .Report utilizes graphs and charts. Report is available to the manager.
Rationale	Creates an easily digestible summary for the manager. Allows the manager to evaluate project state and worker contribution.
Source	
Source Document	
Acceptance/Fit Criteria	Report is generated upon manager request.
Dependencies	R-004,R-005,R-006
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-008
Status	New / **Agreed-To** / Baselined / Rejected
Description	Gamification: System has a point system in which employees can earn points through completing tasks and providing/receiving feedback.
Rationale	Incentivizes users to work on project tasks and provide feedback
Source	
Source Document	
Acceptance/Fit Criteria	User’s points increase upon completion of task/feedback.
Dependencies	R-004,R-005,R-006
Priority	**Essential** / Conditional / Optional
Change History	Created 4/19

Requirement ID	R-009
Status	New / **Agreed-To** / Baselined / Rejected
Description	Gamification/Visualization : GUI has a progress bar on the left side that shows team members with their respective scores, ranked in order of points.
Rationale	Incentivizes users to work on project tasks and provide feedback
Source	
Source Document	
Acceptance/Fit Criteria	User's points increase upon completion of task/feedback. Ranking updates when scores change.
Dependencies	R-004,R-005,R-006
Priority	Essential / **Conditional** / Optional
Change History	Created 4/19

USER REQUIREMENTS

These requirements describe the functionality needed to satisfy specific tasks, operational needs, user groups, etc. They cover the requirements that the users need to perform the to-be design. They include functional requirements (what the system must do) and the data manipulated by its functions (data requirements), the interfaces required (external interface requirements) and the architecture it is built on, and nonfunctional requirements.

FUNCTIONALITY REQUIREMENTS

Document the businesses processes that are to be implemented by the system.

PROCESSING REQUIREMENTS

R-001 User hierarchy + permissions : System should allow for different permissions for different users. These permissions are specified upon the creation of the users by admin.
R-002 User Log-in: Each user should have an associated username and password to log into the system with. Users should have the ability to adjust their password if needed.

R-003 Message System: Each user should be able to open up the messaging tab and send a message to any user in the organization. System should send the message to the appropriate user. Messaging tab should also allow for message/user search.

R-004 Project Documentation: System must store and display the project (including its description and id) and allow access to assigned projects by users.

R-005 Task Documentation: System must store and display the project tasks (including its description, id, status, assigned user) and allow appropriate users access.

R-006 Feedback System: System should allow for users to submit feedback on each project task completed by peer. The system will ask each user for an overall numeric rating of the completed task and written feedback. Users should also receive points for leaving feedback that are added to that user's overall score. (see R-008)

R-007 Data Visualization: There should be an continuously updated progress report that visually represents the different project tasks and their progress, as well as each employee and their score. Additionally, any manager can generate a report that includes all progress data and all data collected from peer feedback. These reports should include visual components.

R-008 Gamification : To incentivize users to complete tasks, each user will have an associated score that is modified upon peer feedback and/or project task completion. When these tasks are completed, the system will update the score of the appropriate user. A ranking based on users based on these scores will be displayed for all users (R-008).

INFORMATION REQUIREMENTS

R-001 User hierarchy + permissions : The user's role and permissions will be stored with their account information to differentiate between the type of users.

R-002 User Log-in: The user's log-in credentials (username and password) will be stored with their account information.

R-003 Message System: In order to message other users, the Contacts of each user must be stored (which include the members in that team). The messages themselves must be stored, as well as the status of that message (sent, delivered, seen, failed to send).

R-004 Project Documentation: The unique ID number, description, manager, list of assigned workers, and lists of project tasks must be stored for each project.

R-005 Task Documentation: The unique ID number, description, creater, assigned worker, task status, point value, and average feedback score must be stored for each project task.

R-006 Feedback System: The received peer feedback must be stored. Numerical ratings should be averaged, and all other feedback should be stored for viewing purposes.

R-007 Data Visualization: Task progress (evaluated through by status), worker task distribution, worker points, and all feedback should be transformed into graphs and charts and stored for

viewing purposes and report generation.

R-008 Gamification: Each user will have a score that is stored and updated when they complete project tasks and submit peer feedback. Each project task stores a point value that will be given to the assigned user upon completion of the task.

USABILITY REQUIREMENTS

EASE-OF-USE REQUIREMENTS

To make our product user friendly, we aim to make the interface familiar to what users may have already encountered (the layout, menu contents, fonts/font sizes, notifications). The main page will include an outline of all tasks, a progress bar, and easily accessible tabs for messaging, leaving feedback, and account information.

Additionally, we aim to allow the users to accomplish their most frequent tasks with minimal keystrokes. These tasks will include: accessing different projects, claiming a project task, messaging another user, and submitting feedback.

R-001 User hierarchy + permissions : N/A

R-002 User Log-in: The login page and process will be standard and familiar to the user. Changing credentials will also be standard. The Account Details page (and the ability to edit it) will be accessible.

R-003 Message System: The message tab will be clearly displayed at all times. Notifications for all messages received will be easily seen. The messaging system will be standard and familiar to the user.

R-004 Project Documentation: The user will be able to maneuver between several projects using clearly displayed tabs. When a project is selected all (color coded) project tasks will be displayed, as well as a progress bar that summarizes the project's progress. The user will be able to see what tasks must be completed easily.

R-005 Task Documentation: Project tasks will be displayed on the appropriate project page. The status and associated color will be clearly visible to the user, allowing them to distinguish between what tasks must be accomplished, and what tasks are completed and can be reviewed.

R-006 Feedback System: There will be an option to provide feedback on each completed project task (clearly marked), and the user will also be able to keep track of all their submitted and received feedback in an easily accessible Feedback tab.

R-007 Data Visualization: The update bar will be on the side of the user's screen. It can be minimized by the user.

R-008 Gamification: Tasks will be marked clearly with the amount of points they are worth.

DOCUMENTATION REQUIREMENTS

A user-manual will be emailed to any organization that wishes to use our product. This will give a detailed explanation of how the tool works, and all instructions needed for initial setup and organization. For regular users, our web application will include a "Help Page" that will explain the products purpose and answer frequently asked questions.

SAFETY REQUIREMENTS

All steps necessary will be taken to ensure that user information is protected in the case of a data breach. The system will use SSL Encryption to protect all data. Strong passwords will be required for all users, and authorization/authentication schemes will be implemented to ensure safety. In addition, only users with certain permissions will be able to generate reports and access/edit data that contains private information. A content security policy will be implemented as well, so the safety requirements and regulations are all easily accessible to all users.

PERFORMANCE REQUIREMENTS

AVAILABILITY REQUIREMENTS

We aim for our product and all of its features to be accessible to users 95% of the time during a month.

RESPONSIVENESS REQUIREMENTS

We aim to make the UI response times as fast as possible:

+ Application launch < 10 seconds
+ Responses to user action < 2 seconds
+ Generating report < 30 seconds
+ Messages sent < 10 seconds

Network latency: 150 ms - 300 ms
(https://github.com/Tendrl/documentation/wiki/Best-Practices-for-Response-Times-and-Latency)

RELIABILITY REQUIREMENTS

We aim for our product and all of it's features to have 80 percent reliability for each month. We We will adjust this number at further stages of development.

CAPACITY REQUIREMENTS

Our system should be able to support 50 concurrent users. It will be able to manage 200 user records, and 500 project records. We will adjust this number at further stages of development.

SCALABILITY REQUIREMENTS

Our system will be able to support an annual growth of 10% for new users. We will adjust this number at further stages of development.

DISASTER RECOVERY AND BUSINESS CONTINUITY REQUIREMENTS

Since we are not working from a physical location, a disaster plan is not necessary.
To ensure business continuity in the event of problems due to server failures, widespread outages, or human error, we plan to define our Recovery Time Objective (RTO), the maximum time allowed to get things back to normal after a failure, and Recovery Point Objective (RPO), or the maximum allowable amount of lost data measured from failure to last valid backup. An example of possible numbers include:

- ***Tier-1:*** *Mission-critical applications that require an RTPO of less than 15 minutes*
- ***Tier-2:*** *Business-critical applications that require RTO of 2 hours and RPO of 4 hours*
- ***Tier-3:*** *Non-critical applications that require RTO of 4 hours and RPO of 24 hours*

We will adjust these numbers at further stages of development. In order to ensure these objectives, we will have an effective backup solution for our data.

SECURITY REQUIREMENTS

USER SECURITY REQUIREMENTS

All steps necessary will be taken to ensure that user information is protected in the case of a data breach. The system will use SSL Encryption to protect all data. Strong passwords will be required for all users, and authorization/authentication schemes will be implemented to ensure safety. In addition, only users with certain permissions will be able to generate reports and access/edit data that contains private information. A content security policy will be implemented as well, so the safety requirements and regulations are all easily accessible to all users.

DATA SECURITY REQUIREMENTS

In order to ensure data security, SSL Encryption will be used to protect all data. Data will only be able to be accessed and edited by authorized users.

LEGAL COMPLIANCE REQUIREMENTS

NOTIFICATION REQUIREMENTS

The web application will contain a legal disclaimer and website terms of service that are easily accessible to users.The term and conditions will explain the rights and responsibilities of all users.

PRIVACY REQUIREMENTS

The web application will have an easily accessible privacy policy that informs users how their data will be used and stored.

FUNDING REQUIREMENTS OR APPROPRIATION STIPULATIONS

N/A

REQUIREMENT CONSTRAINTS AND DEPENDENCIES

PROJECT CONSTRAINTS

ID	Constraint
C.1.1	Finals Week Deadline (2nd week of June)
C.1.2	No budget
C.1.3	Resources limited to those that are free or offered by DePaul

DESIGN CONSTRAINTS

ID	Constraint
C.2.1	Must be compatible with academic and professional team work
C.2.2	Must implement data visualization
C.2.3	Must implement gamification
C.2.4	Must have communication system
C.2.5	Must accommodate remote work

REFERENCE MATERIAL

Description	Filename and Version	Location
Team 5 Project Documents	General Location for all files	*https://drive.google.com/open?id=1SBd97Wt4UCD48U9os8EspQXttVCYXOzR*

TEST PLAN

1.0 User Acceptance Testing

1.1 Definition

The overall purpose of testing is to ensure the WeWorkFiveTimesAsHard Project Management Tool performs at an acceptable level for the customer. This document outlines the detailed plan for user acceptance testing of this application.

1.2 Roles and Responsibilities

Resource Type	***Responsibilities***	***Name***

Project Manager	→ Communication with customer to agree on format and scope of UAT → Agreement of acceptance criteria with the customer prior to commencing UAT	Paulina Grzybowicz
Business Analyst	→ Assist customer with the creation of a detailed test plan	All Team Members
Test Lead	→ Ensure that a detailed test plan is available for test users → Ensure that bugs identified during UAT are logged in Test Director → Ensure testing takes place within agreed timeframes	Peter Gentile
Testers	→ Execute test scripts/cases to ensure the application performs at an acceptable level. → Document testing results.	Remaining Group Members

2.0 Testing Requirements

+ Testing will take place in the testers' workplaces. Results will be discussed remotely. Some testers may choose to perform some testing from their regular workstations where it is possible. Test results must still be coordinated with others.
+ User Acceptance Testing will begin by Week 9 (first week of June).
+ Identified testing participants will receive instructions prior to the start of testing.
+ Identified testing participants will perform the equivalent of their normal business function in the upgraded environment
+ Test scripts/cases and scenarios will be prepared prior to the start of UAT.
+ Test participants will conduct the tests and document results.
+ Defects will be entered into the Test Director and tracked by the Test Lead.

3.0 Testers/Participants

Testing participants should include representatives from all areas involved in the application. There are benefits to including representatives from across all areas to validate the systems functions before the upgrade goes live in production.

Tester Name	***Department/Area Representing***	***Area of Testing Focus***
Willy Moore	*n/a*	TBD
Joey Thomas	*n/a*	TBD
Tim Komperda	*n/a*	TBD
[Family and Friends]	*Random Users*	TBD

4.0 Testing Schedule

All upgraded functionality and test data will be migrated to the test environment prior to the start of user acceptance testing.

Activity	**Lead Responsibility**	**Date**

Identify and select testers for UAT	Willy Moore	
Develop test scenarios and scripts/cases	Peter Gentile and Paulina G.	
Validate participants availability for testing	Willy Moore	
Review scenarios/scripts for accuracy, completeness and sequence (confirm test data is correct)	Peter Gentile and Paulina G.	
Ensure UAT Lab desktops configured for testing	N/A	
UAT environment validation	Peter Gentile	
Testing by UAT participants	Peter Gentile	

5.0 Assumptions and Risks

5.1 Assumptions

+ The UAT environment will be available and desktops will be available to perform testing.
+ The Business team has reviewed and accepted functionality identified in the business requirements and software requirements documents.
+ Code walkthroughs/reviews will be completed by the development team.
+ Unit testing will be completed by the development team prior to release to the test team.
+ Testers will test what is documented in the requirements.
+ All changes to requirements will be communicated to the test team.

+ Resources identified in this plan are available to test the application and resolve defects and address issues as they are raised by the test team.
+ That the delivery of the product to production contains all setup, etc., that is necessary for optimum performance in the production site.

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5.2 Risks

Description of Risk	***Mitigation Strategy***
Risk #1	*Insufficient Hardware*
Risk #2	*Knowledge and Data Risk*
Risk #3	
Risk #4	

6.0 Additional Project Documents

All project documents are located at:
https://drive.google.com/open?id=1agolWSyEjuPZno5l1COV_KDdBdREukXR

7.0 Sign-off and Acknowledgement

I understand that by agreeing to participate in this testing through the execution of the testing plan, I approve of the activities defined and authorize my department to participate as documented for the successful implementation of this application in our department.

Paulina Grzybowicz *Date: **4**/22/ 2020*

Resource Name

Tester

Willy Moore *Date: 04/19/2020*

Resource Name

Tester

Tyler Brown :) *Date: 4/19/2020*

Resource Name

Tester

Joey Thomas *Date:04/19/2020*

Resource Name

Tester

Tim Komperda *Date: 04/19/2020*

Resource Name

Tester

Ridheyjot Chatha *Date: 04/19/2020*

Resource name

Tester

Peter Gentile *Date: 04/19/2020*

Resource name

Lead Tester