Rafal Wojtowicz   CS 495   2/18/17
Jessica Nelson   Team A
Ayesha Ahmed
Danyal Farooq

Project Analysis Report

Application Name: Kickoff

Problem Statement: Defects inserted during the software development cycle can be attributed to teams failing to initiate a structured approach to project management. Scrum is a valuable framework for project management, but the teams wishing to use it may not know how to implement it.

Value Statement:

The Kickoff application will reduce defects in the development cycle by providing agile development teams with an interactive guide to Scrum.

Proposed Solution:

Kickoff assists and teaches new software development teams that are unfamiliar with Scrum to comprehensively and correctly initiate the Scrum-driven agile development cycle.

User Story Used to Inspire Solution:

Joe is a software engineer and project supervisor. Joe's last project failed because of mismanagement. There was little collaboration; each team member was assigned an exclusive, traditional role. Communication was insufficient; few meetings were properly organized. The customer changed the requirements after the development started and there was no way to feasibly fulfill the customer's expectations by the set deadline. Joe heard these issues could be resolved with an agile process using the Scrum framework of management, but he did not know how to initiate this approach in order to apply it to his upcoming project. He needed a guide for Scrum.

User Analysis:

Who are our users?

Our target users are digital natives who are inexperienced in the Scrum framework that comprise software development teams with very limited resources. These users formerly took on traditional software development team roles such as project manager, quality engineer, software engineer, or business analyst. We identified three subtypes of users according to their roles with respect to the Scrum framework: Product Owner, Scrum Master, and developers.

What are the expectations of each user?

All users:
- Use app to start the project

- Use app to learn Scrum
- Attend Scrum meetings
- Transition from traditional roles to cross-functional roles
- Transition from being assisted in organization to self-organizing
- Review product backlog

Product Owner:
- Set up backlog
- Maintain backlog
- Communicate priorities and backlog
- Cancel sprint or end it early if necessary

Scrum Master:
- Supervise project
- Represents team and process to management
- Coach team on Scrum ceremonies
- Support Scrum team by removing blockers
- Coordinate Scrum ceremonies
- Time box ceremonies

Scrum Team:
- Perform sprint
- Participate in daily standups
- Fulfill their specialized roles in cross-functional capacity (Note: we assume each of the developers held the equivalent of one of four traditional roles, which are "Project Manager," "Lead Software Engineer," "Business Analyst," and "Quality Assurance Engineer." Please see the "Our Roles and Responsibilities" section below for a breakdown of functions of each of the four roles)
- Hold each other accountable for progress

What are the users main wants and goals?

Users want to work effectively as a team to deliver on project goals. They want ease in starting a project correctly. They want a guide to help them initiate their software development project because they understand that mistakes made early on can have significant negative consequences for the downstream processes.

What are characteristics of the application target audience that may affect behavior with the software or information?

- Know what is expected of them based on their traditional roles
- Are motivated by knowing they cannot afford mismanagement
- Want to learn Scrum
- Are digital natives:
    - Are relatively young (note: we are mainly targeting Millennials; older users may or may not exemplify these characteristics)
    - Are more inclined to use modern technology (i.e. an app to help them initiate the software development process)
    - Expect the general ease of use that applications nowadays provide
    - Need mundane work automated
    - Look for a graphic, multimedia-driven user interface
    - Seek learning through experience
    - Are constantly checking their mobile communication devices (smartphones)

- Are inexperienced Users of Scrum:
    - May not understand philosophy of Scrum
    - Familiar with traditional project management frameworks, roles, and functions (like waterfall)
    - Expect specific instructions
    - Need constant checks to keep them on track
    - Need to be reassured of their success and improvement

What is their prior experience with similar tools and interfaces?

We assume our users will have very little to no experience using analogous applications (i.e. digital guides and management organizers). However, we do presume they have experience of using modern applications and graphical interfaces.

Functionality and Requirements:
- Function - Run on Android
    - Requirement - The app should run on Android mobile phones
- Function - Login
    - Requirement - Users should be able to login and access their team's project
    - Requirement - Different types of users will be directed to their respective profiles after login
- Function - Introduction
    - Requirement - Educates the user on agile principles by displaying graphic guides
        - Requirement - Graphic guides will take no longer than 10 minutes to go through.

- ○ Requirement - Guides user in identifying roles and responsibilities of a Scrum team, namely Scrum master, product owner, and developer.
    - ■ Requirement - App displays action items to choose roles which must be completed to move to the next step.
  - ○ Requirement - Introduces users to Scrum ceremonies with a graphic guide
- ● Function - Schedule Scrum ceremonies
  - ○ Requirement - Allow user to determine length of sprints by typing in the number of days required for each sprint.
  - ○ Requirement - Automatically schedules sprint planning meetings, daily standups, demos, and retrospectives based on user preferences
    - ■ Requirement - Takes user preferences from quantitative options in the settings menu such as occurrence per week, number of days, or number of minutes allotted to each task.
- ● Function - Facilitate Scrum ceremonies
  - ○ Requirement - Guides Scrum team through daily standups by providing a stopwatch capability to keep time and showing alerts to move on to the next tasks.
  - ○ Requirement - Guides users through sprint planning by facilitating development of stories, tasks, and acceptance criteria.
    - ■ Requirement - Displays alerts for planning and takes information from input categories.
    - ■ Requirement - Checks for quantitative words in the criteria for acceptance.
    - ■ Requirement - Inserts items into the calendar and generates reminders.
  - ○ Requirement - Aids Scrum master in leading retrospective for Scrum team
    - ■ Requirement - Takes minutes spent on tasks during a meeting and generates a report about performance.

Project Team Setup:

Environment:
Channel of Communication: Slack
Meeting Schedule: Tuesdays, SB111, 12:40PM - 1:40PM
Documents Repository: Google Drive
Code Repository: Github
Programming language: Java
Prototyping platform: Mobile phone
Application platform: Android

Our Roles and Responsibilities:

We will all participate in each of the main functions of the development process and production of project deliverables. However, we made each team member individually responsible for a particular function on the team according to traditional software development team roles, detailed below:

Project Manager: Rafal Wojtowicz
- Four functions of management:
    - Planning (defining scope, creating schedule, setting standards and objectives)
    - Organizing (identifying and clarifying roles)
    - Leading (motivating team, assigning work)
    - Controlling (tracking and reporting on progress)
- Project specific responsibilities:
    - Organization and maintenance of repositories and communication channels
    - Communication with professor
    - Compile final presentation
    - Proofread written deliverables
    - Take meeting notes
    - Work closely with business analyst (directly assist with his functions)

Quality Assurance Engineer: Ayesha Ahmed
- Review requirements, specifications and technical design documents to provide timely and meaningful feedback
- Design test plans and test cases
- Estimate, prioritize, plan and coordinate testing activities
- Work closely with lead software engineer (directly assist with her functions)
- Test prototype

Lead Software Engineer: Jessica Nelson
- Produce software to specification
- Create framework for software application
- Write efficient code for system
- Delegate development tasks as needed
- Work closely with quality assurance engineer (directly assist with her functions)

Business Analyst: Danyal Farooq
- Define configuration specifications and business analysis requirements
- Define requirements

- Optimize integration with existing systems
- Help design, document and maintain system processes
- Analyze and research target users
- Research on domain
- Provide first draft of written deliverables
- Work closely with project manager (directly assist with his functions)

Team Structure:

We will work primarily in pairs, with one pair consisting of the manager and analyst, and another pair consisting of the two engineers. Each pair will report to the other on progress and assist the other pair as needed.