

Bookhallow

Gamified Reading Tracker

Project Proposal
CS 4360 Technical Software Project

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Description of the Problem

Reading trackers range from pen and paper to full blown sites such as Goodreads that allow people to organize their books and create wish lists of books they'd love to read someday. But, there is something missing from all these systems – gamification.

Bookhallow takes reading trackers to the next level, allowing users to create characters and battle monsters as they read books and complete challenges. Joining up in a book club, users can battle the beasts collectively or challenge each other to readathons. Make clicking the “finished reading” button more fun as you save the town of Bookhallow from library destroying fiends!

Solution

Purpose

Bookhallow is a gamified reading experience. Using a web application, users can track books, participate in a community, level up their personalized character and battle monsters threatening the quiet town of Bookhallow.

Users will be able to create accounts, download any book information they already have on Goodreads, and start battling monsters with each page they read. Users can choose to befriend others, join in clubs, and compete in challenges to earn rewards. With each book (e-book, audiobook, graphic novels, novellas – you name it), users gain experience (XP) points to level up their character, earn coins to purchase armor and potions, and deal damage to whatever beasts they are currently fighting.

Goals

- Create a web application that allows users to create and maintain secure accounts.
- Allow users to search and add books to varying lists on their account.
- Allow users to track and update their progress on books they are reading.
- Add in gamification aspects, as mentioned in https://medium.com/@jcron_89878/what-is-gamification-how-it-works-how-it-can-help-your-business-19f98f1a9d4e such as:
 - Goals
 - Challenges created by the user and the community
 - Global challenges
 - Status
 - Have a character that levels up and can have interesting stats
 - Community
 - Having global challenges

- Book clubs that allow users to fight monsters together
- Open source allows users to contribute to the app
- Education
 - How-to guides as users move and advance through the game
- Rewards
 - Experience points to level character
 - Coins to buy armor, potions, etc. to improve their character

Software Engineering

Life Cycle

- Agile software development operating in 2-week sprints.

Project Management Tools

- Code repository and version control
 - <https://gitlab.com/bansheep/bookhallow>

Issue Tracking

- Jira will be used to track stories, create sprints, and to provide data that will be used in a retrospective.
- The Jira and GitLab pages are integrated, allowing easy movement between the two

Methods of communication

- Since this is a solo project, no external communication within the team is required
- Email and Teams will be used to communicate with the professor

Time management tools

- Toggl
- Hours will be tracked per story on GitLab based off Toggl

Test Driven Development

- This project will operate under a TDD environment, using the appropriate tools/libraries based on programming language

Continuous Integration/Continuous Development

- GitLab make CI/CD pipelines easy to integrate when pushing code into the repository
 - CI/CD pipelines will be explored to ensure a continuously viable product

Project Members

Team Member	Role	Contact Information	Responsibilities
Jessica Weins	Project Manager, Scrum Leader, Developer, Stakeholder/Product Owner	(303)981-4184 jweins1@msudenver.edu	All

Scope

Minimum viable product

For the given time constraints of 14 weeks (roughly 140 – 168 working hours), the following need to be completed to satisfy a minimum viable product.

- Web application that allows users to create and manage an account
- Ability for users to upload data from a csv (such as data from Goodreads, or an Excel document) to populate book information on their account
- Users can search books by title, author, or ISBN to add to their account.
- Users can create a character that levels up based on reading activity
- Characters can have various skills added after leveling up that affects the damage they do to monsters
- Users can create personal reading challenges that lets them fight a monster as they complete books from the challenge
- Web application hosted on the already purchased and owned “Bookhallow.com”

Stretch goals

The following are additional features that can be added if time allows.

- A marketplace that allows users to spend coins earned from completing tasks to upgrade their character.
- Enable global challenges and boss monsters that everyone is able to battle
- Community features that allows users to befriend others and search for challenges created by other members
- Community features that allow the creation of “book clubs” that allows users to form small communities to discuss books, participate in challenges together, and battle monsters together.
- Mobile responsive website that allows ease of use on mobile devices

Timeline

- **Project Start Date:** January 27, 2021
- **Project End Date:** May 05, 2021
- **Total Working Time:** 14 weeks (98 calendar days)

Deployment plans

This product will be released as a web application hosted on Bookhallow.com.

Documentation

The following documentation will be made available on the repository, maintained, and updated as needed.

- Project Proposal
- Specifications
- Instructions on how to contribute to the code
- Coding Standards
- In code documentation
- Guides for users

Any additional information will be stored via the Confluence page, including resources, notes, retrospectives, and any additional information that could clutter the project code repository.

Risks and constraints

SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none">• Organization and planning• Experience with using multiple programming languages• Very comfortable with Git• Use of GitLab/Jira with work for the past year reduces the learning curve of using those technologies	<ul style="list-style-type: none">• Time constraints (working part time, school full time, leaving 10-12 hrs/wk for this project)• Databases• Test Driven Development• Art for website
Opportunities	Threats
<ul style="list-style-type: none">• Taking course on database systems• Switching teams at work to work on testing and TDD in February	<ul style="list-style-type: none">• Overplanning with time constraints• Finding appropriate web hosting services that are within a limited budget

Risks

- Working as a team of one causes all responsibilities to fall on one person
- Not having team members to “rubber ducky” or pair program will increase time spent debugging
- Learning new technologies/tools may take much longer than expected and delay the final product

Constraints

- Monetary – little to no budget to contribute to technologies
- Time – 10-12hrs/week to contribute to project