QuestCalendar

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*Abstract*—QuestCalendar is a mobile application developed on Java using Android Studio and implementing Firebase features. QuestCalendar allows the users to organize and improve themselves by gamification.

Keywords—Java, Android, Android Studio, Calendar, Game, Health, Tasks

# Introduction

QuestCalendar is an app developed for android devices, that aims at helping people improving themselves at the same time they organize their daily life. Created to focus on mental and physical health, social life, environment, and organization, based on the gamification of the things method, the user will be able to level up and gain experience by completing daily quests, and unlocking new characters or features to keep to motivation, and encourage de user to improve step by step.

# Goals

Goals can be separated in different categories: organization, improvement, engagement, and satisfaction.  
But the main goal of the project is to create an app that people use in their daily life, adding tasks or events while users feel that they are playing a game.

## Organization

QuestCalendar is a Calendar-based app, so users can organize their events and To-Dos on our app, in an easy way, and check them in a monthly or daily view, to give the users a overall view of what they have to do and reminding them their events by notifications.

## Improvement

The application provides advice about different subject of improvement via notifications that you will receive during the day. The tips are easy to understand and follow. The different fields make each user to focus several fields to please every user. Each piece of advice is given with his source for more transparency.

## Engagement and motivation

To help the users, it is important to enhance and feed their motivations. One quest is given to the user every day so they can feel having a small success in their life and congratulate themselves. Doing the daily quest make the user gain experience and level up. The user can also customize his character so give him another purpose to complete the quest other than a personal purpose.

Gamification is one technique that is proved to work and make happier the users creating them the necessity to beat the challenge or just fun, to make the day more easy-going.

## Satisfaction

QuestCalendar aims at being stress-relief for the users, using light colors and a simple screen design to avoid creating them stress or anxiety by seeing a lot of information in one screen.

# Requirements Analysis

For QuestCalendar, it has been created from personas and use cases to user stories and requirements that the application should satisfy.

## Personas

* Miguel: He is a Full Stack programmer working for a big company. He spends all the time thinking about his job and lose the sense of time, also he is a gamer and in his free time he like playing videogames. He wants to focus on his job but also to focus on his personal life, improving his personal relations and health because he spends most of his time sitting in his chair. Miguel would like to be able to do some exercise in his break time of working to avoid back problems. He said, “I want to have more organization in my life, don’t forget things I have to do and fight laziness like if I were playing a game”. Some of his Key characteristics are:
* Lose sense of time.
* He thinks about his job all the time.
* Always in his chair.
* Likes playing games.

And some of his goals:

* Do exercise.
* Improve himself and his relations.
* Be focus on what he’s doing.
* Don’t forget important things.

One use case scenario for him would be:

Miguel needs to take some pills every day at 9 am, but he is working since 7 am and he always forget it. He wants to get a reminder when he must take it.

Interfaz de usuario gráfica, Aplicación

Descripción generada automáticamente

1. Some characteristics of Miguel

* Violette: Violette is a youtuber and an influencer. She is sharing her passion for science and parts of her private life on social media. She is well organized. She is currently using a bullet journal, but she hates her writing and always loses it. She wants to be more organized because she has a very busy schedule. Indeed, she must take care of her two younger siblings, and she is working on her own. Moreover, she would like to add content to her channel as videos about her way of organizing herself, but she cannot show her messy planner. She said, “My followers are always asking me how I am managing my videos and other contents. But I cannot show them my planner, I am too ashamed of it”. Some of his Key characteristics are:
* Works as a youtuber and an influencer
* is passionate about science
* loves to take care of her family
* has not found a way of organization that fits her

And some of her goals:

* finding a system of organization that she can not lose.
* being able to share her way of organizing with her followers.
* having her personal and professional planning in the same space, but not mixed.

One use case scenario for her would be:

Violette has to post a video on Monday and to take care of her siblings the whole week-end. She needs to plan activities for her siblings but also the steps of the making of the video. She has a notebook that she uses as a planner but she is afraid of forgetting it or that her siblings will destroy it.

Interfaz de usuario gráfica, Texto, Aplicación, Chat o mensaje de texto

Descripción generada automáticamente

1. Some characteristics of Violette

* Lisa: Lisa is a high school student. She is depressed and some days has a lack of motivation. She is working a lot to pass her high school diploma and to enter a good university. She gets blocked every time she thinks about unfinished tasks. The stress is preventing her from being productive. She likes animals and fashion. She is a horse rider. She said, “I am always overwhelmed when I am thinking about all the tasks I have to finish”. Some of his Key characteristics are:
* last year of high school
* horse rider
* always anxious

And some of her goals:

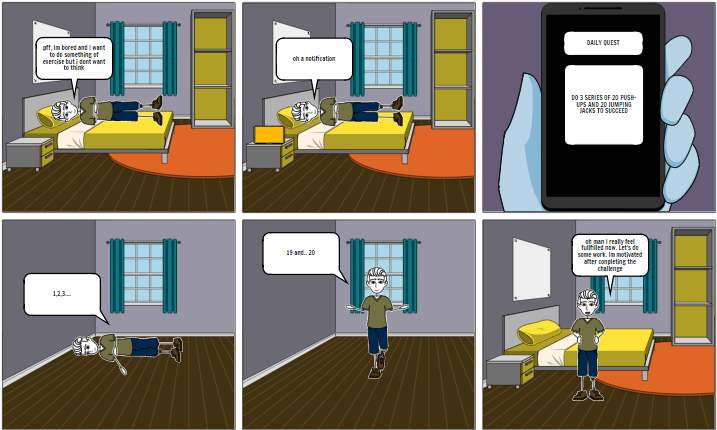
* stop stressing to be able to study
* entering a good university
* having a good study planner

One use case scenario for her would be:

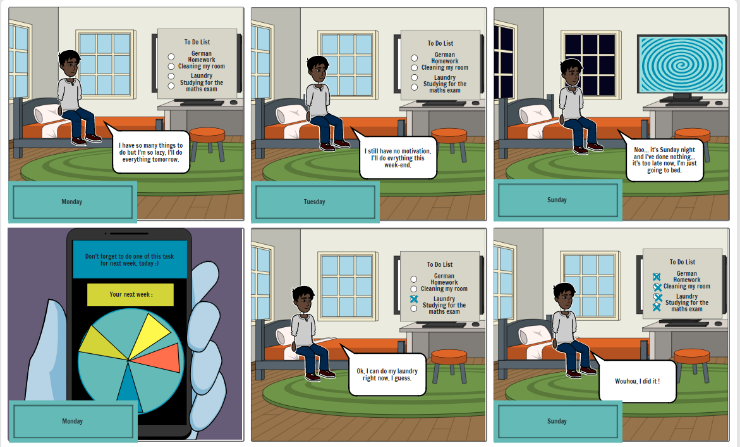
She wakes up and doesn’t have energy to do anything, but she has an exam next week and she must prepare for it. She won’t do it on the weekend because she has a horse-riding competition. The app makes her start working again by the daily tasks, which help her feel well by achieving small tasks.

## Storyboards

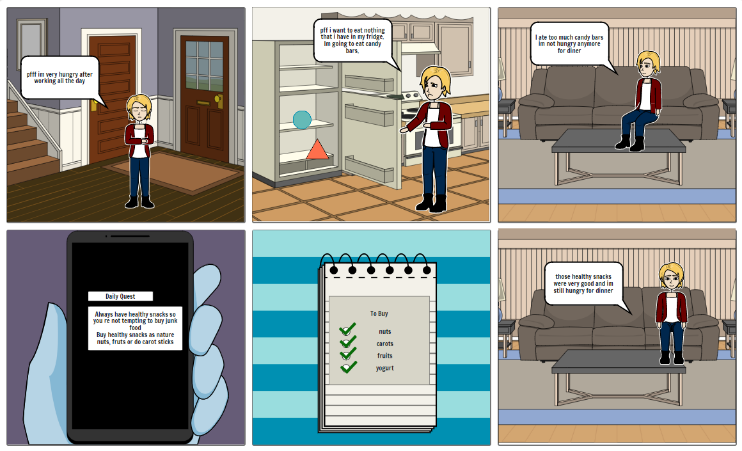
There are also some storyboards created to simulate situations that could happen with and without a person using QuestCalendar.



1. Storyboard of doing exercise thanks to QC



1. Storyboard of organization thanks to QC



1. Storyboard of healthy eating thanks to QC



1. Storyboard of focusing thanks to QC

## User stories

1. User Stories

| Number | User Stories |
| --- | --- |
| 1 | As a user, I want to create daily, weekly, and monthly events so that I can organize my schedule and don’t forget anything. |
| 2 | As a user I want a beautiful interface because I want to enjoy the views when I'm using the app. |
| 3 | As a user I want to get all kinds of rewards so I can keep my motivation and don’t forget to do my tasks. |
| 4 | As a user, I want to get notifications from the app because I don't want to forget events. |
| 5 | As a user, I want to be able to see my achievements because I want to keep track of my progress. |
| 6 | As a user, I want to receive one random quest every day because I want to keep my motivation. |
| 7 | As a user, I want to be able to check a task to be sure I finished it and receive experience. |
| 8 | As a user, I want to personalize my character so I can enjoy the application more. |
| 9 | As a user, I want to gain experience and level up by completing tasks and quests to unlock more accessories for my character. |
| 10 | As a user, I want to be able to check the source of a tip because I need to trust the application. |
| 11 | As a user, I want to receive tips with healthy information so I can be more informed and enjoy the app more. |
| 12 | As a user, I want to edit my information because I can change my mind about what I want. |
| 13 | As a user, I want to create an account so I can use the app. |
| 14 | As a user, I want to delete my account to delete all the records in the database. |
| 15 | As a user, I want to see my tasks represented in the calendar, so I know what I have to do every day/week/year. |

## Requirements specifications

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
* In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
* A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
* Do not use the word “essentially” to mean “approximately” or “effectively”.
* In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
* Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
* Do not confuse “imply” and “infer”.
* The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
* There is no period after the “et” in the Latin abbreviation “et al.”.
* The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

An excellent style manual for science writers is [7].

# Conceptual Model

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar.

## Mockups

**The template is designed for, but not limited to, six authors.** A minimum of one author is required for all conference articles. Author names should be listed starting from left to right and then moving down to the next line. This is the author sequence that will be used in future citations and by indexing services. Names should not be listed in columns nor group by affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization).

### For papers with more than six authors: Add author names horizontally, moving to a third row if needed for more than 8 authors.

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Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

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## Figures and Tables

#### Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

1. Table Type Styles

| Table Head | Table Column Head | | |
| --- | --- | --- | --- |
| Table column subhead | Subhead | Subhead |
| copy | More table copya |  |  |

1. Sample of a Table footnote. (*Table footnote*)
2. Example of a figure caption. (*figure caption*)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

##### Acknowledgment *(Heading 5)*

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression “one of us (R. B. G.) thanks ...”. Instead, try “R. B. G. thanks...”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

##### References

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Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the abstract or reference list. Use letters for table footnotes.

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