Metronome

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# Feasibility Study

I would like to make a metronome. It is a thing that ticks and is used by musicians to stay in time. Going to make it web based. The main calculation is converting a BPM to the delay between each beat. This I computationally simple.

The budget limit is 0 and we have 2 weeks.

# Analysis

Stakeholders

Matt is a 17 year old boy who would like to become a pianist but has trouble staying in time. He has very little money so cannot afford a physical metronome. He has access to the internet through an old laptop.

Research

Graphical user interface, website

Description automatically generatedGraphical user interface, application

Description automatically generatedA picture containing text, device, gauge

Description automatically generated

# Essential Features

Set BPM

Start/Stop

Any web enabled device

# Limitations

There is limited time to add some of the additional features

There will be no musical analysis or play analysis

# Success criteria

|  |  |  |
| --- | --- | --- |
| 1 | Must be accessible on any device connected to the internet | The stakeholder has an old laptop |
| 2 | User can set BPM | Practice at different speeds |
| 3 | Autocorrect to valid data | They want to focus on drumming and might accidentally type the wrong thing |
| 4 | Increase and decrease the BPM | Different speeds needed |
| 5 t | Toggle start and stop | Really simple ui |
| 6 | Audible click | Wants to drum along a to a click sound in headphones |
| 7 | Visual Cue, indication showing whenever it would tick | Sometimes the metronome would be used with the sound turned off. |

# Design

# Algorithms

BPM = user input

Interval = 60000/BPM

The user should be able to enter the bpm score the browser needs to know how long to pause between each tick in milliseconds.

# Usability Features

Graphical user interface

Description automatically generated

# Implementation

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# Testing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test No | Description | Success Criteria | Test Data | Expected results |
| 1a | Basic webpage | 1 | Page load | A web page with a title and text box to enter the bmp score displays in chrome. Buttons. |
| 1b | BPM | 2 | 120 | Valid data is accepted |
| 1c | BPM | 3 | “” | BPM to be 60 |
| 1d | BPM | 3 | 30 | BPM = 50 |
| 1e | BPM | 3 | 130 | BPM = 120 |
| 1f | BPM | 3 | Potato | BPM = 50 |
| 1g | Increasing BPM | 4 | Press increase | BPM increase to 61 |

## VARIABLES AND VALIDATION

VAR: DATA type: Validation Justification

BPM

Interval

…

# Installation

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