

# Makers Ideas 2021

1. A beautiful creative Todo list, try to make something different from the existing solutions.
  - <https://medium.com/javascript-in-plain-english/build-a-simple-todo-app-with-react-561579b39ad1>
2. An AI Flappy Bird Player based on a simple RL model. Using artificial intelligence, make a program which can play the game and score as high as possible. Train the program using reinforcement learning while learning it along the way. See your program learn eventually and become a better player than anyone in the world!
  - <https://towardsdatascience.com/the-ultimate-beginners-guide-to-reinforcement-learning-588c071af1ec>
  - [https://simoniniethomas.github.io/Deep\\_reinforcement\\_learning\\_Course/](https://simoniniethomas.github.io/Deep_reinforcement_learning_Course/)
  - [http://cs231n.stanford.edu/reports/2016/pdfs/111\\_Report.pdf](http://cs231n.stanford.edu/reports/2016/pdfs/111_Report.pdf)
3. A chrome extension to limit time on social media sites, and blocks said sites after a fixed amount of time.
  - <https://www.freecodecamp.org/news/how-to-create-and-publish-a-chrome-extension-in-20-minutes-6dc8395d7153/>
4. Offline Music player which syncs songs from a remote cloud stored folder -> syncs songs from remote, add songs to remote. Songs should be playable offline. Plus points for supporting both mobile devices and PCs.
  - <https://developers.google.com/drive/api/v3/about-sdk>
  - <https://itnext.io/create-an-awesome-background-running-music-player-like-amazon-music-in-flutter-341a59efa936>
5. Espanso(text expander <https://espanso.org/> ) for android, possibly a new keyboard or an extension of gboard, interface can be similar to iOS text replacement
  - Similar to this <https://www.texpandapp.com/> but can be made open source
6. Black menu for social networking sites like [black menu for google-](#)
  - <https://www.freecodecamp.org/news/how-to-create-and-publish-a-chrome-extension-in-20-minutes-6dc8395d7153/>
7. A Voxel procedurally generated world. Like minecraft. Try to generate world features
  - Example : [https://github.com/Zylann/godot\\_voxel](https://github.com/Zylann/godot_voxel)
  - <https://www.youtube.com/watch?v=h66iN1Pnnd0>
  - [https://www.youtube.com/watch?v=8Ex\\_eHJ29iQ&feature=emb\\_title](https://www.youtube.com/watch?v=8Ex_eHJ29iQ&feature=emb_title)
  - And in case you do decide to make a game, giving this a watch is always recommended: <https://www.youtube.com/watch?v=Fy0aCDmgxg>
8. A Discord bot that allows control of a minecraft server through discord. Turn the server on/off, allows people with special perms to run server commands, saves in game chat to discord, allows people to save in-game coordinates by using some in-game text commands. More features to ease up gameplay
  - <https://realpython.com/how-to-make-a-discord-bot-python/>
  - <https://docs.python.org/3/library/asyncio-subprocess.html>
  - <https://minecraft.gamepedia.com/Commands>
  - <https://www.ionos.com/digitalguide/server/know-how/manage-a-minecraft-server/>

9. A fun game that works on commands pooled from a discord server or a twitch stream. Could be a competitive game where different players control different characters with discord commands, could be a party game, or could be something like:  
<https://www.engadget.com/microsoft-flight-simulator-twitch-chat-success-192115979.htm#:~:text=Somehow%2C%20the%20chaotic%20hivemind%20that,at%20the%20airport%2C%20Eurogamer%20reports.>
- Again, these are just some suggestions, you can do anything innovative with the idea as long as it's fun :P.
- <https://realpython.com/how-to-make-a-discord-bot-python/> (for discord)
  - [https://www.learn datasci.com/tutorials/how-stream-text-data-twitch-sockets-python/\(for twitch\)](https://www.learn datasci.com/tutorials/how-stream-text-data-twitch-sockets-python/(for twitch))
  - In case you choose to do this in godot :  
<https://docs.godotengine.org/en/stable/tutorials/networking/websocket.html> (The discord bot and the game could run separately and communicate through websockets.)
  - Lastly, you can never go wrong watching this before making a game :  
<https://www.youtube.com/watch?v=Fy0aCDmgnxg>
10. A basic server development framework along the lines of Flask(for python) or Gin/Chi(for golang), built from scratch using sockets. Should allow assigning handler functions to routes and be able to handle multiple requests at the same time.
- <http://beej.us/guide/bgnet/>
  - [https://developer.mozilla.org/en-US/docs/Learn/Server-side/First\\_steps](https://developer.mozilla.org/en-US/docs/Learn/Server-side/First_steps)
11. A CLI tool that can be used to fuzz payloads for a specific vulnerability on a target website. Fuzzing is a way of discovering bugs in software by providing randomized inputs to programs to find test cases that cause a crash. Fuzzing your programs can give you a quick view on their overall robustness and help you find and fix critical bugs.
- <https://towardsdatascience.com/a-simple-way-to-create-python-cli-app-1a4492c164b6>
  - <https://www.f-secure.com/en/consulting/our-thinking/15-minute-guide-to-fuzzing>
  - <https://realpython.com/python-requests/> (To communicate with the website)
  - A similar tool:  
<https://portswigger.net/burp/documentation/desktop/tools/intruder/using>
12. An http proxy that can be used to log requests on a specific port. Bonus points for https support
- Write a simple HTTP Server in the language of your choice (python and nodejs are easy and thus recommended).
  - Use <https://realpython.com/python-requests/> (python) and <https://stackabuse.com/the-node-js-request-module/> (nodejs) to relay the request received on the server and add logging.
13. A backlit keyboard music visualiser.
- A full-fledged application doing the same (can be taken as a reference at some points)
  - <https://github.com/CalcProgrammer1/KeyboardVisualizer>

- Example of backlight controlling tool:
  - <https://github.com/tcatm/xbacklight>
  - Controlling backlights on arch linux:  
[https://wiki.archlinux.org/index.php/keyboard\\_backlight](https://wiki.archlinux.org/index.php/keyboard_backlight)
  - Fourier transform:
  - [https://www.youtube.com/watch?v=spUNpyF58BY&ab\\_channel=3Blue1Brown](https://www.youtube.com/watch?v=spUNpyF58BY&ab_channel=3Blue1Brown)
  - Fast fourier transform:  
<https://towardsdatascience.com/fast-fourier-transform-937926e591cb>
  - To get an idea of a music visualiser:
  - <http://jacky.lu/cs184finalproj/>
14. [NLP, APIs, parsers] A NLP activated tweet parser that parses elon musk's tweets and if they include any info that can move the markets then it alerts the people subscribed to the service about what to do with that information (BUY/SELL/HOLD calls on a particular stock). [BONUS] Integrate this service with a broker that offers an API to make actual trades in the stock market (for eg. zerodha) {**LEGAL disclaimer:** SDS Labs or members of SDS Labs including current members and alumni are not responsible for any gains or losses made while trading or testing this. Investment/Trading in **securities Market** is subject to **market** risk, do it **only** at your own risk.}
- Example: <https://www.producthunt.com/posts/elon-stocks>
  - Zerodha API: <https://kite.trade/>
  - <https://towardsdatascience.com/how-to-get-started-in-nlp-6a62aa4eaeff>
  - <https://towardsdatascience.com/a-collection-of-must-known-pre-requisite-resources-for-every-natural-language-processing-nlp-a18df7e2e027>
15. [Electronics, Facial emotion/mood detection] Using the user's camera to capture video/images of the user's face, feed that input in a mood-detection model that then signals a RGB-smart bulb/Keyboard to change its colors according to the user's mood.
- <http://ecomunsing.com/controlling-wifi-lightbulbs-with-python>
  - <https://towardsdatascience.com/face-detection-recognition-and-emotion-detection-in-8-lines-of-code-b2ce32d4d5de>
  - <https://www.youtube.com/watch?v=m0fWjP3yIEo>