



YOUMAGINE

# 'Antique' Auto Correcting Analog Clock

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Located at: <http://www.youmagine.com/designs/antique-auto-correcting-analog-clock>

## Short description:

An antique styled analog auto correcting clock.

## Description:

<https://www.youtube.com/watch?v=XDOLTDkg-n0> "'Antique' Auto Correcting Analog Clock" is an analog styled clock I designed to resemble a clock owned by my grandmother many years ago. Her clock had a wooden case with brass hardware and inner workings. This clock has a 3D printed case using wood and copper PLA for the clock case, details, and inner workings, and black PLA for the clock hands. Her clock used a spring driven windup mechanism, this clock uses an Adafruit Feather ESP 32, stepper motor and stepper motor controller to drive the clock hands at a rate of once per minute. The clock software is designed to "home" the clock on power up or reset (e.g. rotate the clock hands to the 12:00 position) using a reed switch and magnets to detect the home position. Then using one of the numerous NTP clock servers to maintain time, the software rotates the clock hands to the correct time. The NTP clock server is polled by the software at the top of each hour and the time received from the NTP server is written into the ESP32 real time clock. At 12:00 (noon and midnight), if the clock is slow (detected by NTP time of 12:00, but the reed switch is not activated), the software will fast forward the clock to the 12:00 position (reed switch activated), then resume normal operation. As usual, I probably forgot a file or two or who knows what else, so if you have any questions, please do not hesitate to ask as I do make mistakes in plenty. Designed using Autodesk Fusion 360, sliced using Cura 3.5.1, and printed in PLA on an Ultimaker 2+ Extended and an Ultimaker 3 Extended.

If you can, please use the online documentation found at <http://www.youmagine.com/designs/antique-auto-correcting-analog-clock> because those may have been updated. Also, there you can interact and provide praise and/or feedback.