Pharma Printer

Mr.Mudasar Basha[1], CH.Sujith[2], K.Revanth[3], M.Prudhvi Raj[4], E.Gangadher[5]
[1, 2, 3, 4, 5] Dept of Electronics and Communication Engineering
[1, 2, 3, 4, 5] B. V. Raju Institute of Technology, Narsapur, Medak, Telangana- 502313.

Abstract- *This project is a pharmaceutical printing system with some added functionality. This system is built for fast data processing of various drug weight compositions and their bill generation for the pharmaceutical company. The printing system consists of an sq l database and effective front end design. The printer database is a vast collection of drug composition name, weight and other specific data. A drug composition when printed is searched from the database and its weight is added to the receipt based upon the drug quantity. The pharmaceutical printing system is built to help pharmaceutical company calculate and display receipts of drug composition weights and serve in a faster and efficient manner. This project consists of an effective and easy guide to help the employee in easy drug weights calculation and providing an efficient service.*

This important facility is managed by the drug manufacturing companies. Manually maintaining the records is quite difficult and there comes the usage of computers, invented by "Charles Babbage" which has proved to be a boon in the current world. Starting with the"Analytical Engine", much advancement has been done to the computer system. Now-a-days, computers are used everywhere. This usage of computers in pharmaceutical company has reduced the workload, increased efficiency and reliability. Our project is basically deals with developing an application.

Keywords- pharmaceutical, drug, composition, printing.

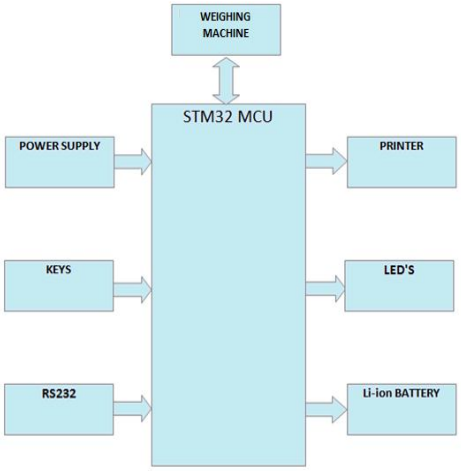
I. INTRODUCTION

Now a day precise measurement and storage of weight is one of the most important activities in industries. The mechanical weighing machines are now replaced by the electronics weighing machine as electronic weighing machines are smart with the advantages like accuracy, reliability, and wide range. The Electronics weighing bridges are comparatively light weight and easy to operate with direct display. Earlier electronic weighing machine were designed using DPM, Microprocessor and Personal computer. The disadvantage of DPM type weigh machine has no facility to store data internally. Microprocessor and Personal computer based system cost is very high. To remove this drawback micro-controller based weighting machine is designed. This paper presents the software and hardware design, results and conclusion. In this paper, we are going to see design of a system that helps to customers for weighing and printing. We will make a system which can give weight as well as printing using controller. Now day's systems have only weighting facility which are costly and require lager human power. Our project is for weighing and printing. We are designing this system in low cost. It will save the time of employees and owner by giving direct print.

II. SYSTEM IMPLEMENTATION

The existing system of the pharma printer was the just normal printer which is used to print the composition of the weights. Which was just called as PCR meter and the printing speed is low. It was an 32-bit architecture. And the proposed system was the speed is high and it is a 32-bit architecture.

III. SYSTEM ARCHITECTURE



BLOCK DIAGRAM OF PHARMA PRINTER

A. STM32 MICRO CONTROLLER

72 MHz to 1GHz frequency, high speed embedded memories (Flash memory up to 1 M Byte a industry standard high performance ARM® Cortex® - M3 32- bit RI SC core operating at and SRAM up to 96 K bytes), and an extensive range of enhanced I /Os and is: up to two I 2Cs, three SPI s, two I 2Ss, one SDI O, five Us-arts, an USB and a CAN.

Peripherals connected to two APB buses. All devices offer three 12- bit AD Cs, ten general- purpose 16- bit timers plus two PWM timers, as well as standard and advanced communication interface.

B. *RS232:*

In telecommunications, **RS-232**, Recommended Standard **232** is a standard introduced in 1960 for serial transmission of data. It formally defines the signals connecting between a DTE (data terminal equipment) such as computer, and a DCE (data circuit-terminating equipment or data communication equipment), such as a modem. The standard defines the electrical characteristics and timing of signals, the meaning of signals, and the physical size and pin out of connectors. The RS-232 standard defines the voltage levels that correspond to logical one and logical zero levels for the data transmission and the control signal lines. Valid signals are either in the range of +3 to+15 volts or the range−3 to −15 volts with respect to the "Common Ground" (GND) pin; consequently, the range between −3 to +3 volts is not a valid RS-232 level.

C. REAL TIME CLOCK:

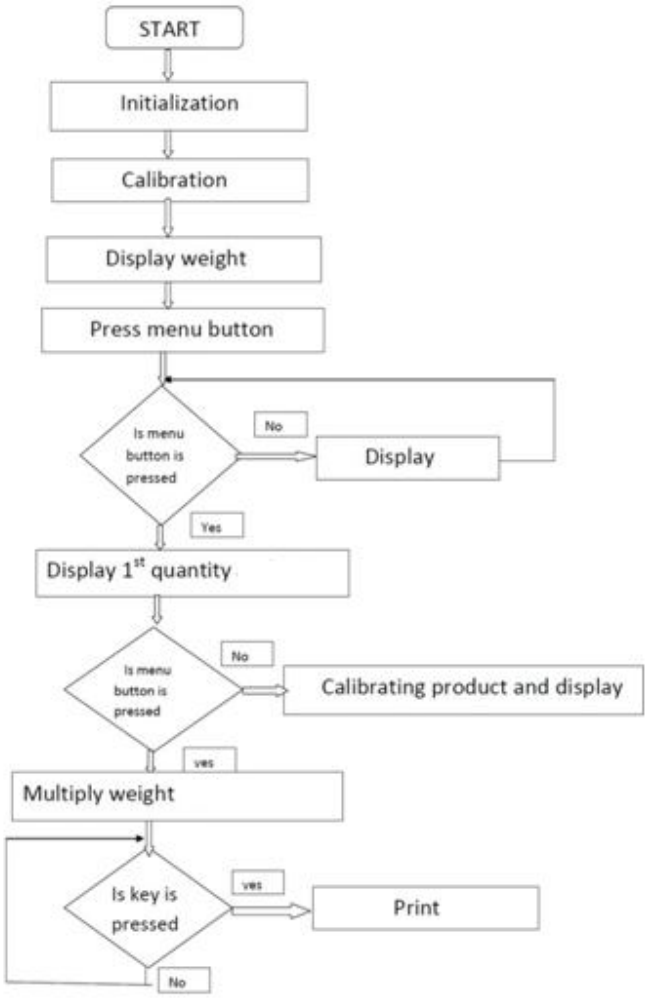
Battery Backed Real Time Clock with time advanced and r et a rd f eat u r e. This feature is useful when the day temperatures vary due to seasonal charges A real-time clock (RTC) is a computer clock that keeps track of the current time. Although RTC s are often used in personal computers, servers and embedded systems, they are also present in almost any electronic device that requires accurate time keeping. Micro-controllers supporting RTC can be used for chronometers, alarm clocks, watches, small electronic agendas, and many other devices. This application note describes the features of the real-time clock (RTC) controller embedded in Ultra Low Power Medium-density, Ultra Low Power High-density, F0, F2 and F4 series devices micro-controllers, and the steps required to configure the RTC for use with the calendar, alarm, periodic wake up unit, tamper detection, time stamp and calibration applications. Examples are provided with configuration information to enable you to quickly and correctly configure the RTC for calendar, alarm, periodic wake up unit, tamper detection, time stamp and calibration applications. Note: All examples and explanations are based on the STM32L1xx, STM32F0xx, STM32F2xx.

D. DISPLAY.

132X32 with white LED back light Graphical LCD .Back light will be OFF when the LPP is left idle (no key is p re ss ed for 10 seconds. The EA DOGM 132x32-pixel graphics display is a new addition to ELECTRONIC Assembly's EA DOGM series. It, too, has pins that allow it to be mounted quickly and easily. 6 different optional LED backlight are available. These can be combined with 5 different display technologies, making it possible to have up to around 20 different designs. Designed for compact, hand held devices, this modern LCD series offers a number of benefits with and without back lighting:

* Extremely compact (55x31 mm) with a large viewing area of 51x15 mm
* Super-flat: 2.0 mm without backlight module, and only 5.8 mm with a b. /l. module mounted
* Serial SPI interface (4-wire) * Single supply +2.4 V or +3.3 V
* Typical power consumption of only 140µA in full operation (white LED backlight from 5mA)
* Easily mounted by soldering
* Wide range of design variants order able as single units

E. FLOW CHART



Flow chart of the pharma printer.

IV. RESULTS

The prime focus of this project is replace the existing home and small scale industries based weight and printing system into large scale industries based weight and printing system, because it converts kg to liter & vice versa.

V. CONCLUSION

We have designed low cost weighing with printing system. This system is very comfortable to user because with the help of key pad prices of item atoms are adjustable. This system is user friendly. This was our project of System Design Lab about “Weighing with Printing System”. Development of this System takes a lot of efforts from us. We think this system gave a lot of satisfaction to all of us. Though every task is never said to be perfect in this development field even more improvement may be possible in this system. We learned so many things and gained a lot of knowledge about development field. We hope this will prove fruitful to us.

REFERENCES

[1] Design of Switches & Sockets Testers based on Micro controller Abdelrasoul Jabar Alzubaidi 1, Yousif Taha Yousif Elamin IOSR Journal of Engineering (IOSRJEN) www.iosrjen.org ISSN (e): 2250-3021, ISSN (p): 2278-8719 Vol. 04, Issue 08 (August. 2014), ||V4|| PP 40-43.
[2] Belove, C. (1986), Handbook of Modern Electronics and Electrical Engineering, John Wiley and Sons Inc. U.S.A
[3] Design of dot-matrix-printers and specifications from https://www.epson.de/products/printers/dot-matrix-printers/epson-dfx-9000#specifications