Projector Overview
Nowadays, projectors are commonly used on different areas. The projectors are normally large, fixed and hard to carry. There is a trend for electronic devices to become smaller and smaller where projector is the same.

Aim and Objectives
Aim
The aim of our project is to develop a hand size projector which is mobile, portable and easy to carry. It can project video from RCA connector, SD card or JPEG image from SD card.

Major objectives
1. Combine the CVBS and SD card projector
2. Use multiplexer to select the output video
3. Change the MCU program and schematics
4. Add the charging IC for Lithium ion battery
5. Add an USB port for charging

Overview of the system
Image processing unit: converts the CVBS and data from SD card into digital RGB signal. This unit also contains a multiplexer to choose the output image from CVBS or SD card.

Power system
Battery
We have used Lithium-ion battery (VI-NP60X-BSKPR) with 1000 mAh capacity in our product. Two (VI-NP60X-BSKPR) are connected in parallel to increase the battery output current and battery capacity

BO24035 – Charging and Power-path management IC
IC BO24035 is highly integrated Li-ion linear chargers and system power-path management devices targeted at space-limited portable applications. In general, it can help us to charge up our Lithium-ion battery (VI-NP60X-BSKPR) and switch the power input between DC supply and battery.

LED (Luxeon K2)
Luxeon K2 is a high brightness LED which manufactured by Philips. It has typically 180 lumens at 1000mA with 50,000 hours life. To prevent the overheat damage of Luxeon K2, we put a heat sink and a fan together with Luxeon K2.

Conclusion
The aim of this project is to modify and make improvement to a palm projector. The main improvement is successfully reducing the size of the projector; introduce new function (SD card, USB charging). Further improvement can be done by adding new function, for example, Bluetooth, GPS.