

The digital photography is still trying to catch-up with its analogous counterpart and recording light direction is one of the most recent area of interest. The first and still the only one light-field camera for consumers, the Lytro camera, has reached market in 2011. This work introduces the light-field theory and recording with special emphasis on illustrating the principles in 2D, gives an overview of current hardware and ongoing research in the area and analyses the Lytro camera itself, describing the closed file formats and protocols it uses so that further research can be conducted. An important contribution of the work is a .NET portable library for developers, supplemented by a file editor as well as an application for wireless communication with the camera based on the library. Finally, the theory is used to discuss implications for light-field registration and linear panoramas.