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MANIPAL SCHOOL OF LIFE SCIENCES

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**Design and development of a smartphone-based imaging platform
using an electroluminescent panel as a source of illumination**

Thesis

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6th Semester B.Sc. Biotechnology

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Abstract: The Smartphone imaging device (SID) developed had a simple architecture. The working was also fairly simple as it did not involve any expert knowledge in the field of technology. The device was a cheap, easy-to-use model which could take pictures with a satisfactory quality. It does have a scope of improvement in various areas. The EL panel used did provide ambient and uniform illumination but the intensity was a bit underwhelming. The images obtained were clear with little to no distortion. The stage height was adjustable according to the smartphone's focal length. Work needs to be done in making the stage height more sensitive to change so that minute changes can also be incorporated. The lens apparatus was easy to apply and use. The overall magnification achieved was satisfactory. This device might not be ready for clinical use but further research and development can help solve the challenges.