Satellite Linked, Wireless Camera Trap Network

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This novel project is not only unique in the world, but it is addressing a genuine need of the international wildlife conservation community.

The Base Module (BM)
The BM is also controlled by a CC1010 microprocessor. Here data packets are error-checked, automatically re-transmitted if necessary, and transferred to the BM’s laptop over a serial link incorporating 3.3V CMOS serial to +5.5V PC serial level shifting circuit. The data is UUEncoded into an email and passed to ‘XGate’ – the worlds leading satellite email software, which emails the photograph via satellite to a chosen email address.

The BM can also check its own email account to receive commands instructing particular RMs to take test photographs, enter hibernate mode, respond only to photographs taken between certain hours etc. Real-time considerations reduce the chance of interference caused by multiple modules wishing to transmit simultaneously, and power-saving strategies have been implemented to increase their operating life.

Conclusion
A fully operational prototype network containing two Remote Modules, a Base Module, two varieties of Animal Sensor and two varieties of Environmental Sensor was successfully designed, programmed, constructed, packaged, and tested complete with a comprehensive GUI ‘Base Module laptop Program’. All four of the ‘user needs’ identified as factors critical to success were met, along with all six features listed as desirable ‘user wants’.

The international Wildlife Conservation Society (WCS) has already expressed an interest in this product, and hopefully in the future this thesis project will facilitate important wildlife conservation studies worldwide.