Autonomous Acoustic Sensors For Conservation and Biodiversity Monitoring

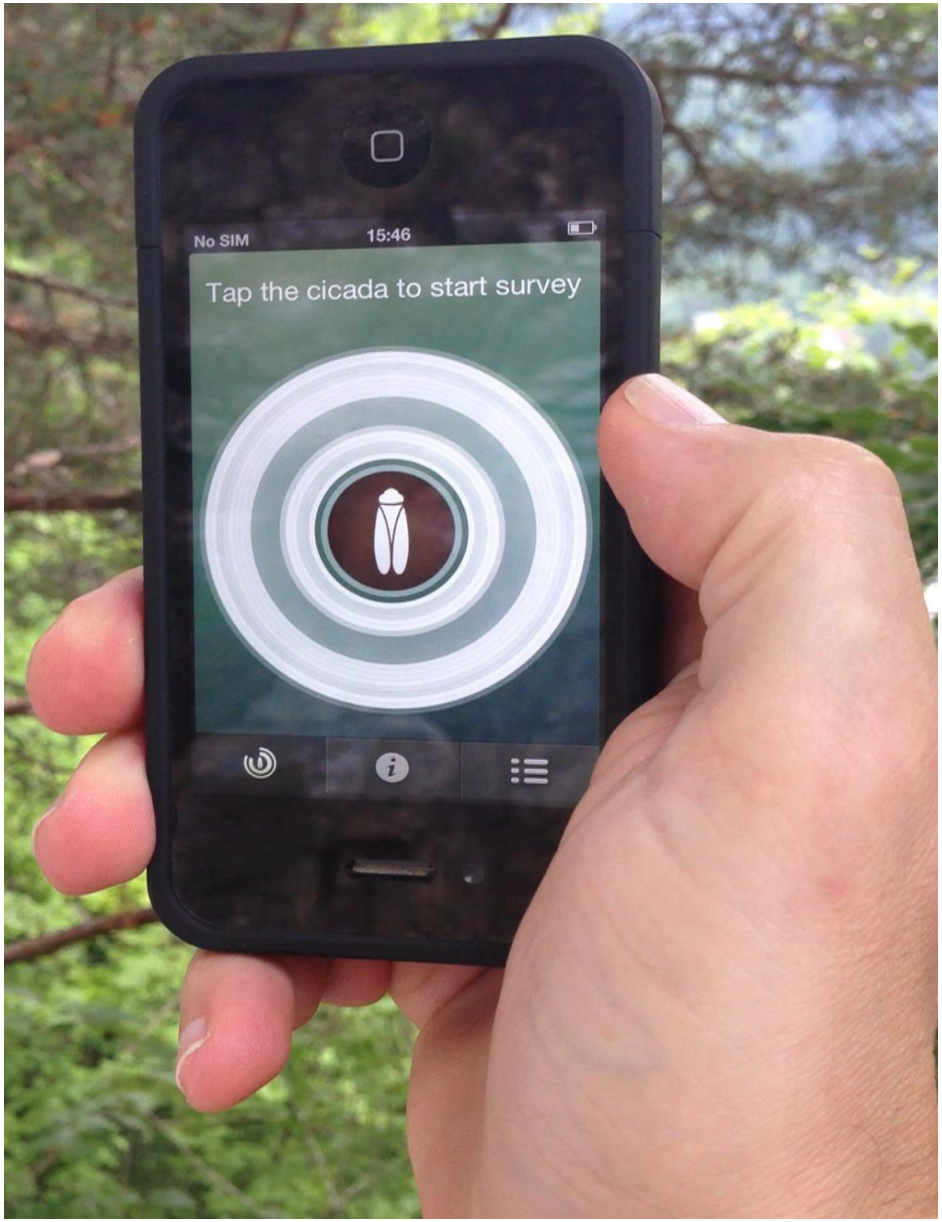
Prof. Alex Rogers (ECS)

Dr. Jake Snaddon and Dr. Patrick Doncaster (CfBS)

Developing bio-acoustic monitoring tools at three difference scales

Smartphone

Built-in Mic
140.0
120.0
100.0
80.00
60.00
40.00
20.00
0
-20.00
-40.00
-60.00
dB SPL rms
0.0
4.8k
9.6k
14.4k
19.2k
24.0k
Frequency (Hz)
FFT


No SIM
15:46
Tap the cicada to start survey

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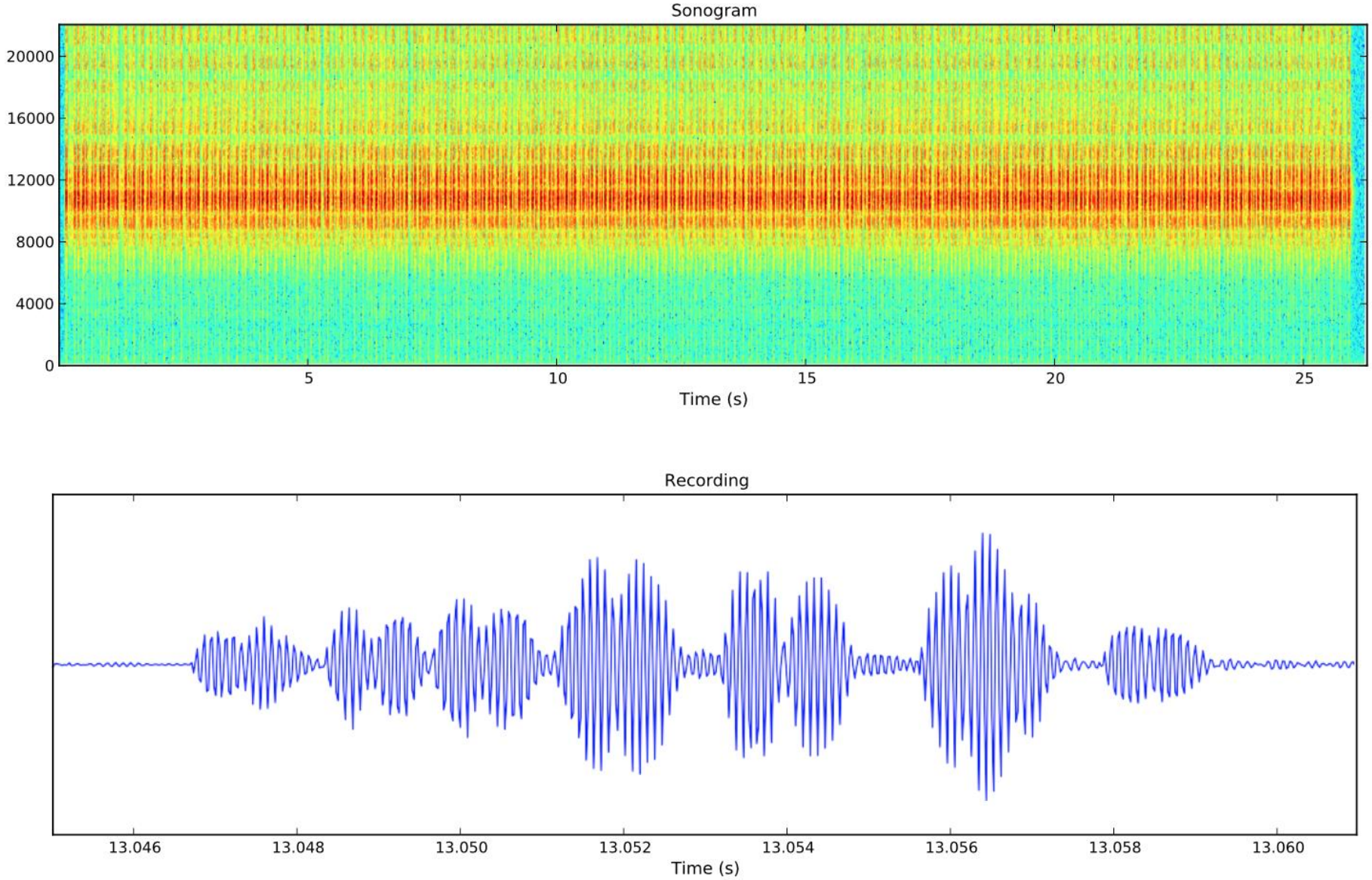
Smartphone

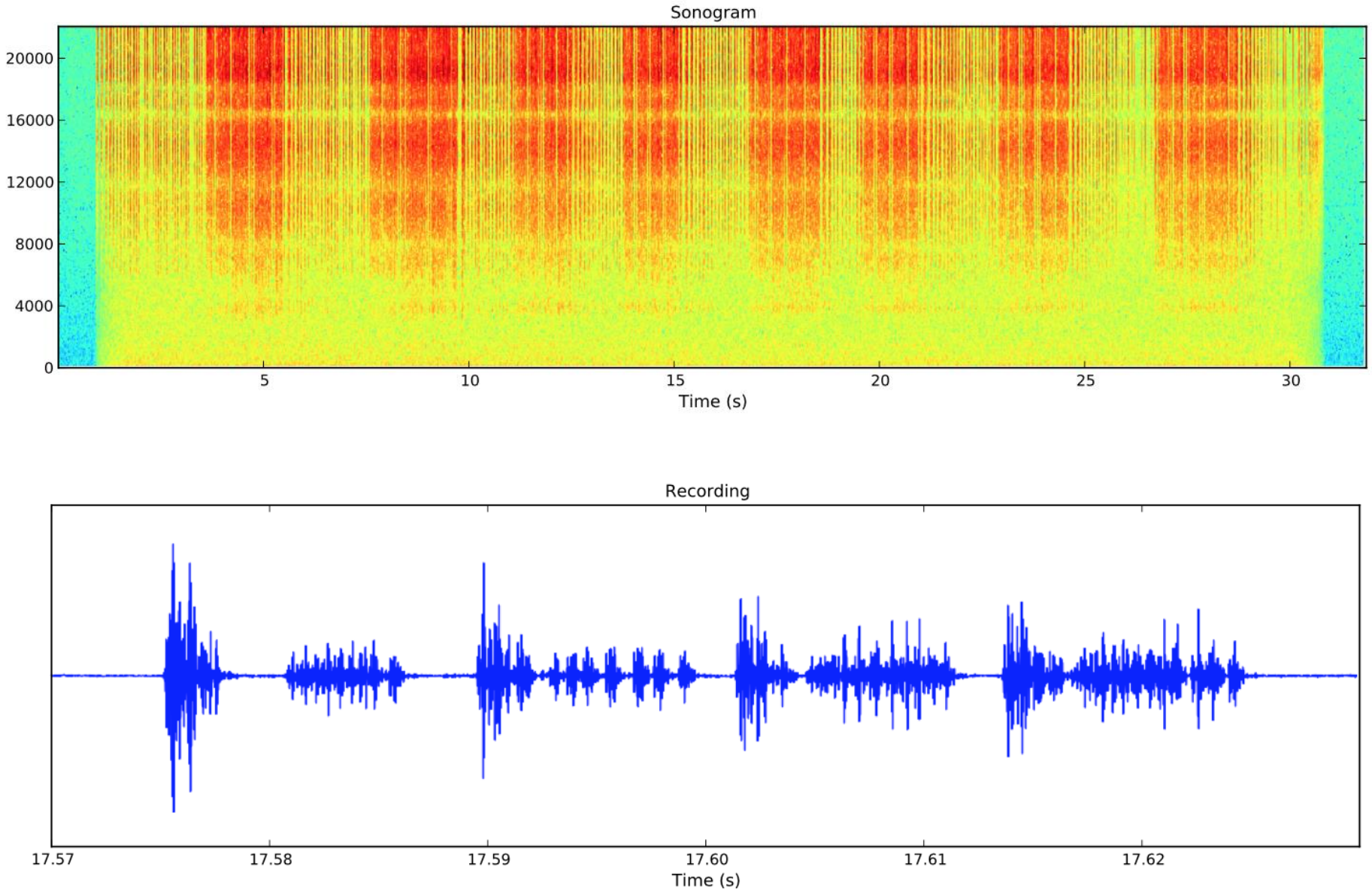
UCL

ARUP

Microsoft Azure Machine Learning

Cloud


Sonogram
20000
16000
12000
8000
4000
0
5
10
15
20
25
Time (s)
Recording
13.046
13.048
13.050
13.052
13.054
13.056
13.058
13.060
Time (s)


Sonogram
20000
16000
12000
8000
4000
0
5
10
15
20
25
30
Time (s)
Recording
17.57
17.58
17.59
17.60
17.61
17.62
Time (s)

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ARM®

FAUNA & FLORA™ INTERNATIONAL

Embedded Sensors

Smartphone

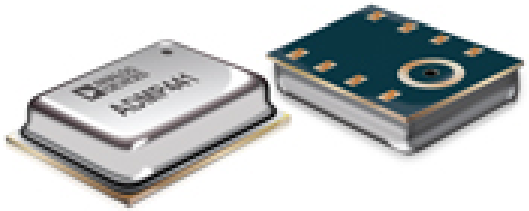
UCL

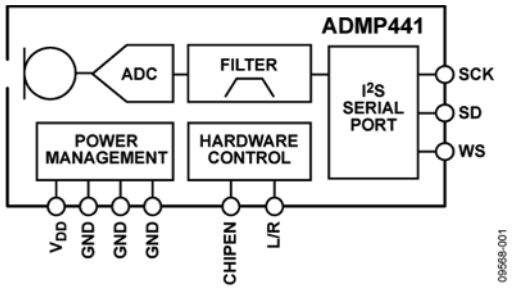
ARUP

Microsoft Azure Machine Learning

Cloud

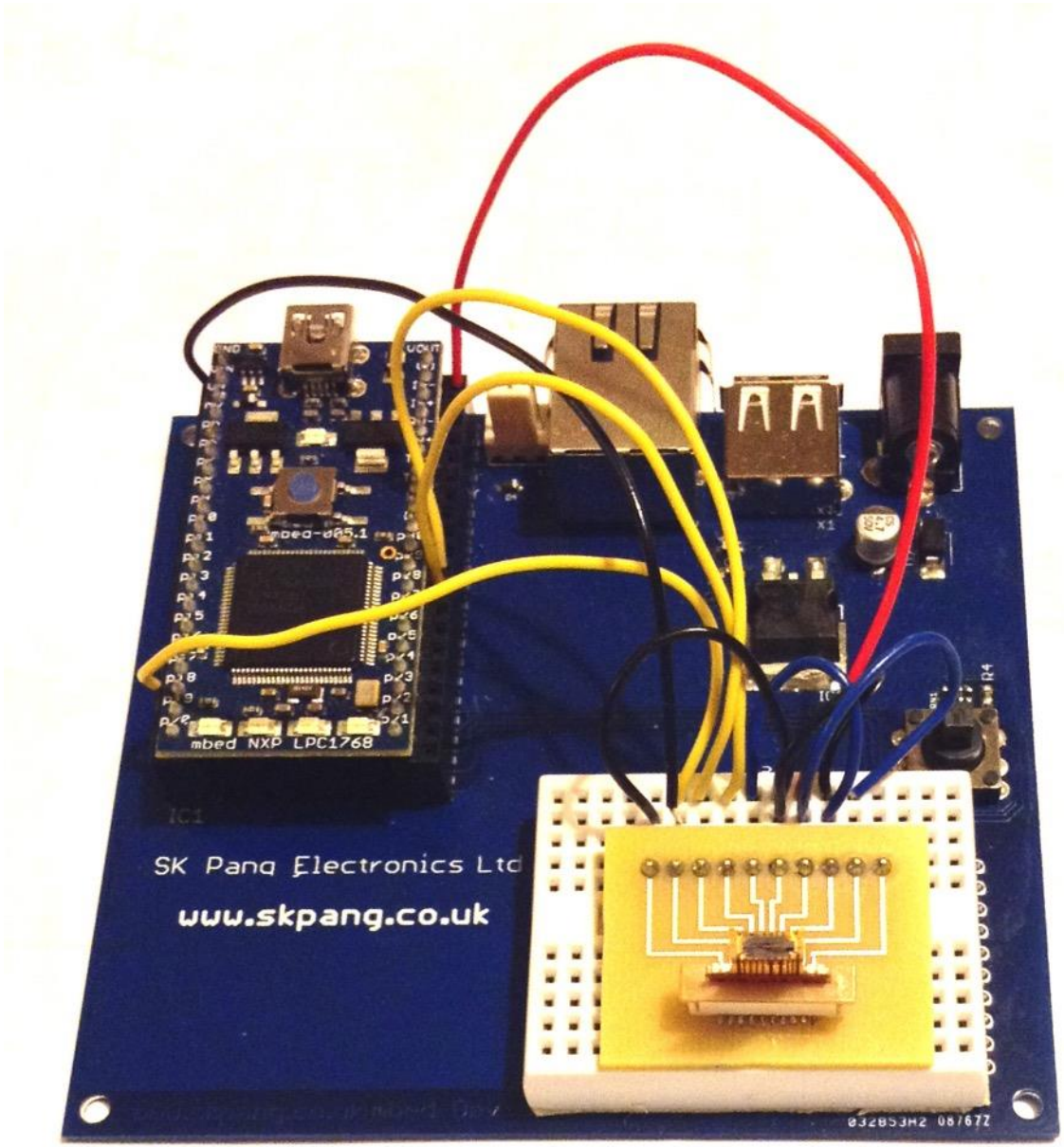
ADMP441
MEMS Microphone



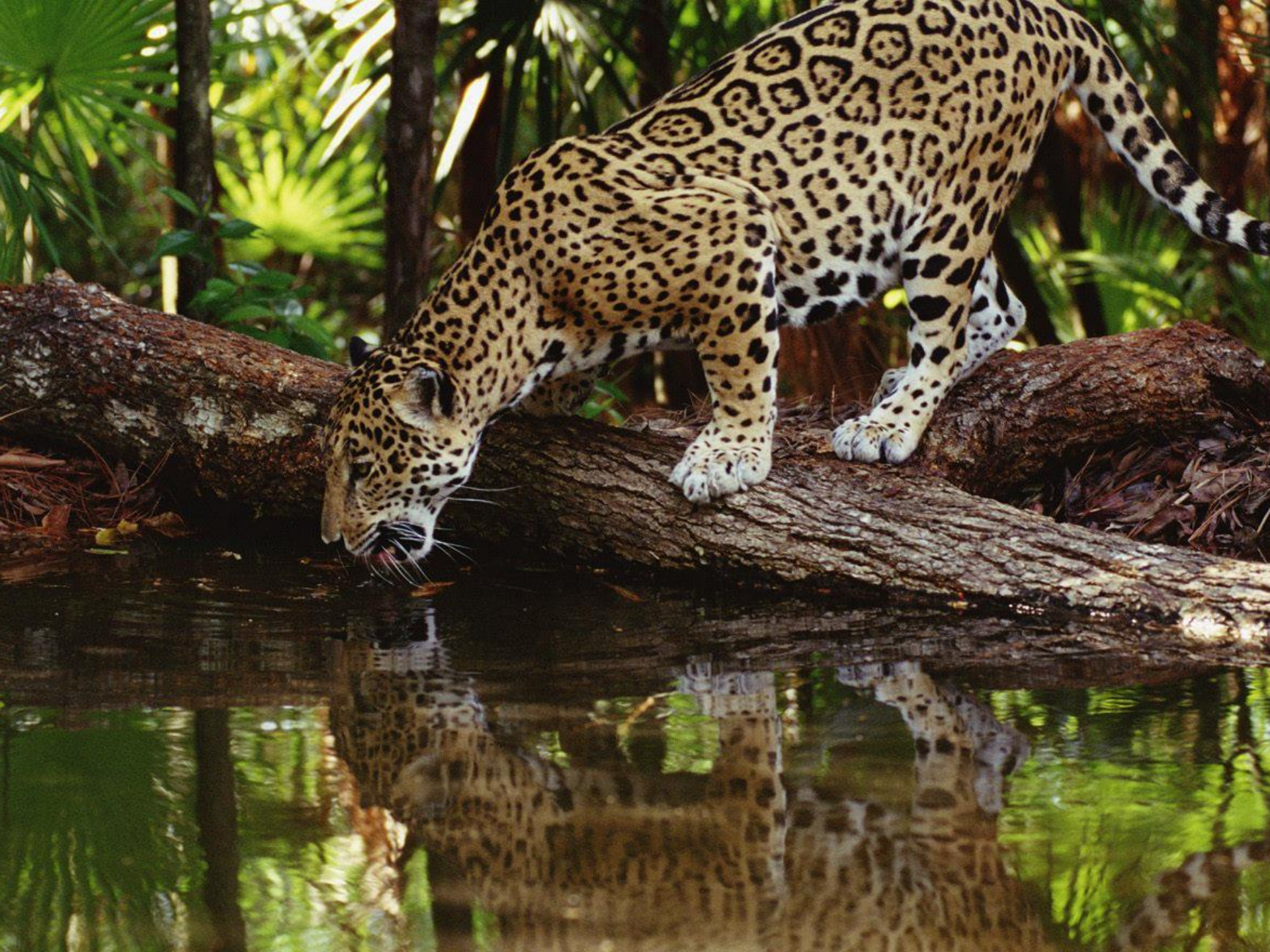


ARM M3
NXP LPC1768

SD Card



mbed



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