Electronic Supplementary Material (ESI) for Analytical Methods.

Google Analytics and Quick Response for Advancement of Gold Nanoparticles Dual Lateral Flow Immunoassay for Malaria – *Plasmodium lactate dehydrogenase (pLDH)*

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Table 1S : Overview of the test results obtained using different scanning systems

Size of AuNPs	**Antibody**	**Analyte**	**Reader**	**LODs,**	**LDR**	**Refs**
14 nm	IgG (Anti-mouse)	pLDH	Smartphone	10 ng/ml		This work
40 nm	Monoclonal Anti-hemoglobin (IgG1)	Hemoglobin	visual	42.5 µg.ml^{-1}	20 – 130 mmol.mol^{-1} (4 – 14%)	[1]
30 – 40 nm	Biotinylated DNA	HIV-1 DNA	Visual	0.24 pg/mL	8 – 64 ng/mL	[2]
40 nm	Mycobacterium Tuberculosis Antib (38 kDa monoclonal antibodies)	Mycobacterium Tuberculosis	Visual	5 ng/mL	10 – 300 ng/mL	[3]
15 nm	Nitrilotriacetic Acid	Malaria biomarker recombinant PfHRP-2	Visual	2000 parasites/µL	0 – 40 nM	[4]
10 & 40 nm	Biotin /streptavudin	Troponin & Mayoglobin	Cell phone & home scanner	1 ng mL^{-1}	(No data)	[5]
NR	Proteins	Rabbit IgG	Google glass & Smartphone	10 pg/mL	(No data)	[6]
NR	Monoclonal capture (anti-hCG α Mab)	hcG	Smart phone	0.20 µg/mL	0.28 – 0.40 µg/mL	[7]
40 nm	Goat anti-mouse IgG capture antibodies	PfhRP-2	Smart phone	0.966 nM	0 – 30 nM	[8]
NR	Ni-NTA Malaria capture	PfhRP-2	Smart phone	< 1 parasite/µL	25 – 250 µL	[9]

	antibodies					
NR	Malaria capture antibodies	Malaria	Smart phone & bare eyes	20.6 parasites/µL	0 – 500 parasites/µL	[10]

NR: Not reported; IgG: Immunoglobulin G; pLDH: Plasmodium lactate dehydrogenase; PfhRP-2: Plasmodium falciparum histidine rich protein – 2; HIV: *human immunodeficiency virus;* hcG: Human chorionic gonadotrofin

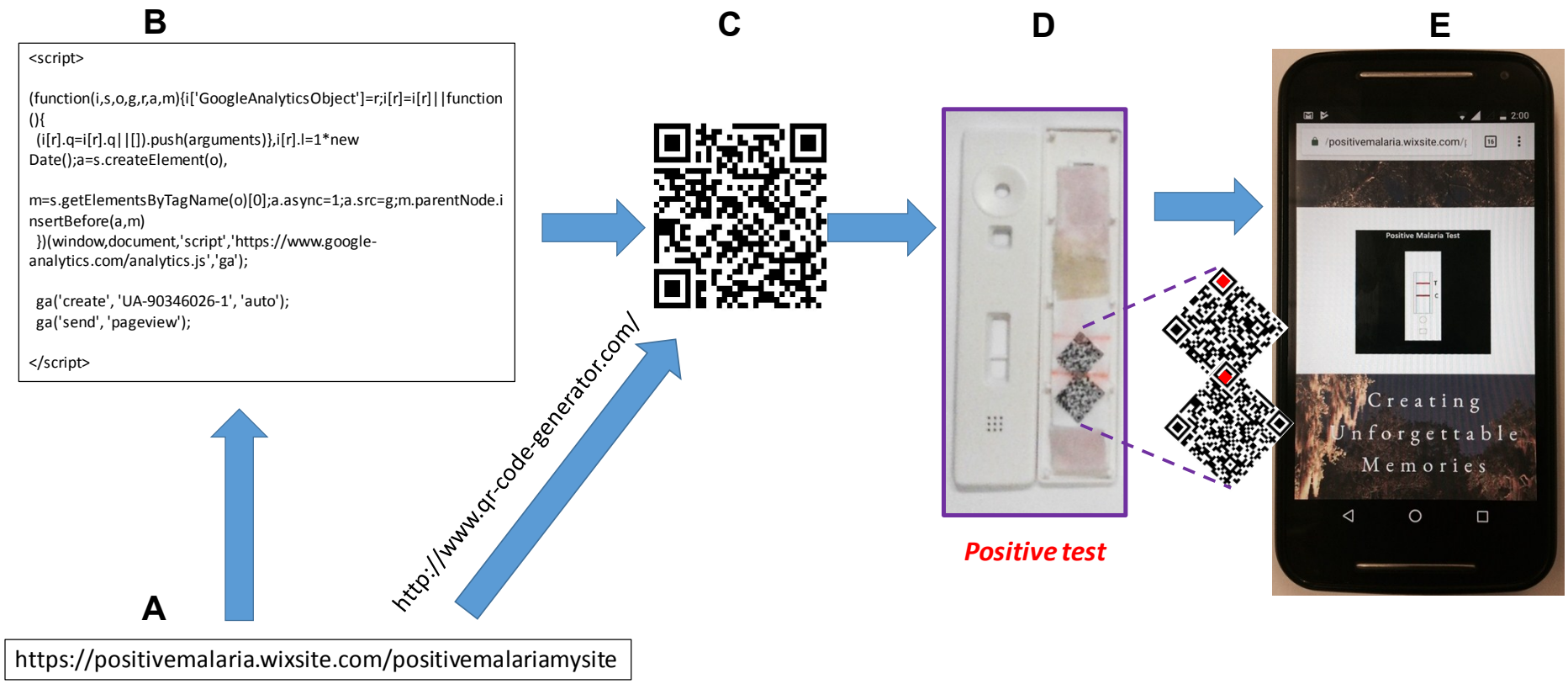

Figure 1S: Design of google analytics system from website where (A) Website designed using Free online Wix (B) The googgle analytics script used to link website to google analytics (C) QR code designed using online QR code generator, (D) Lateral flow immune Assay and (E) Website after scanning QR code .

Figure 2S: Data generated over a 7 days period for scanned malaria diagnostic assays.

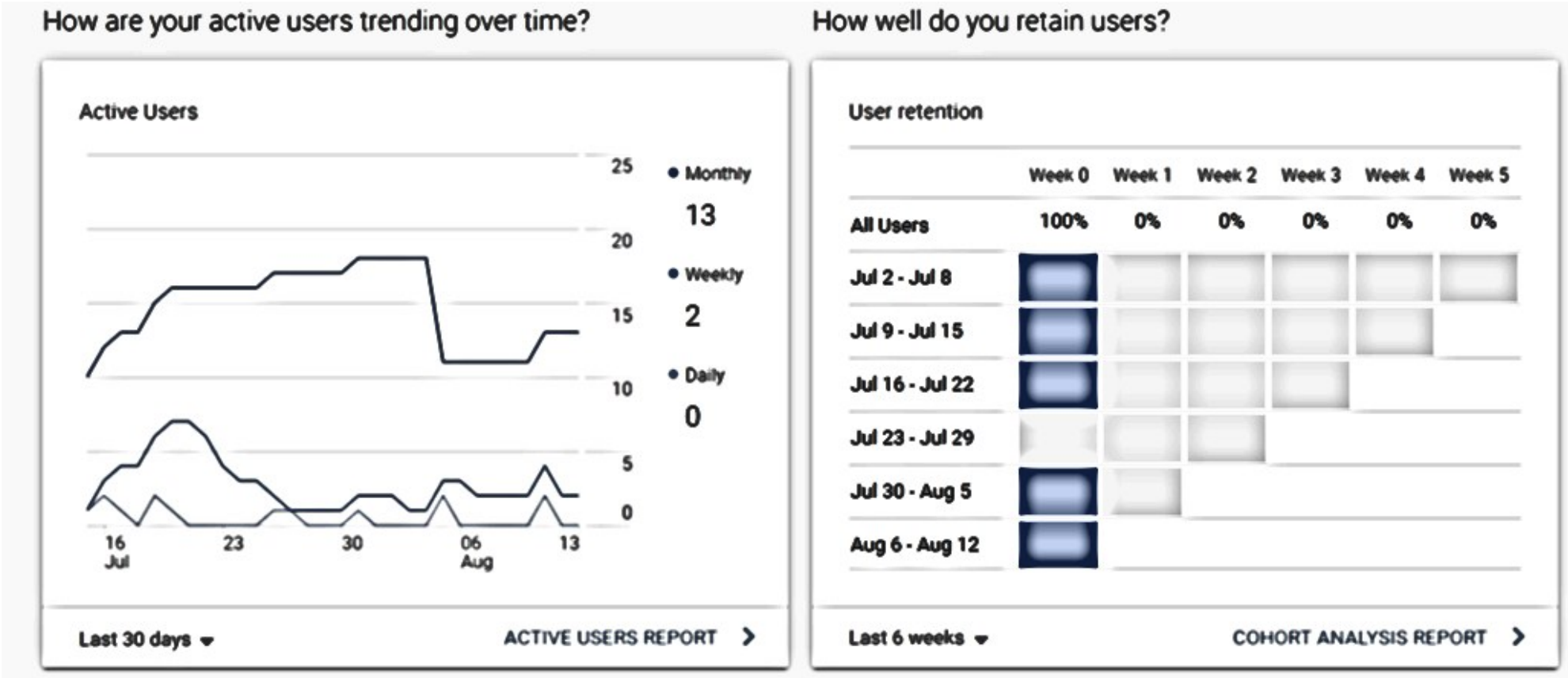

Figure 3S: Data analysis of users of the scanned malaria diagnostic assays and frequency of users which shows numbers over a certain periods.

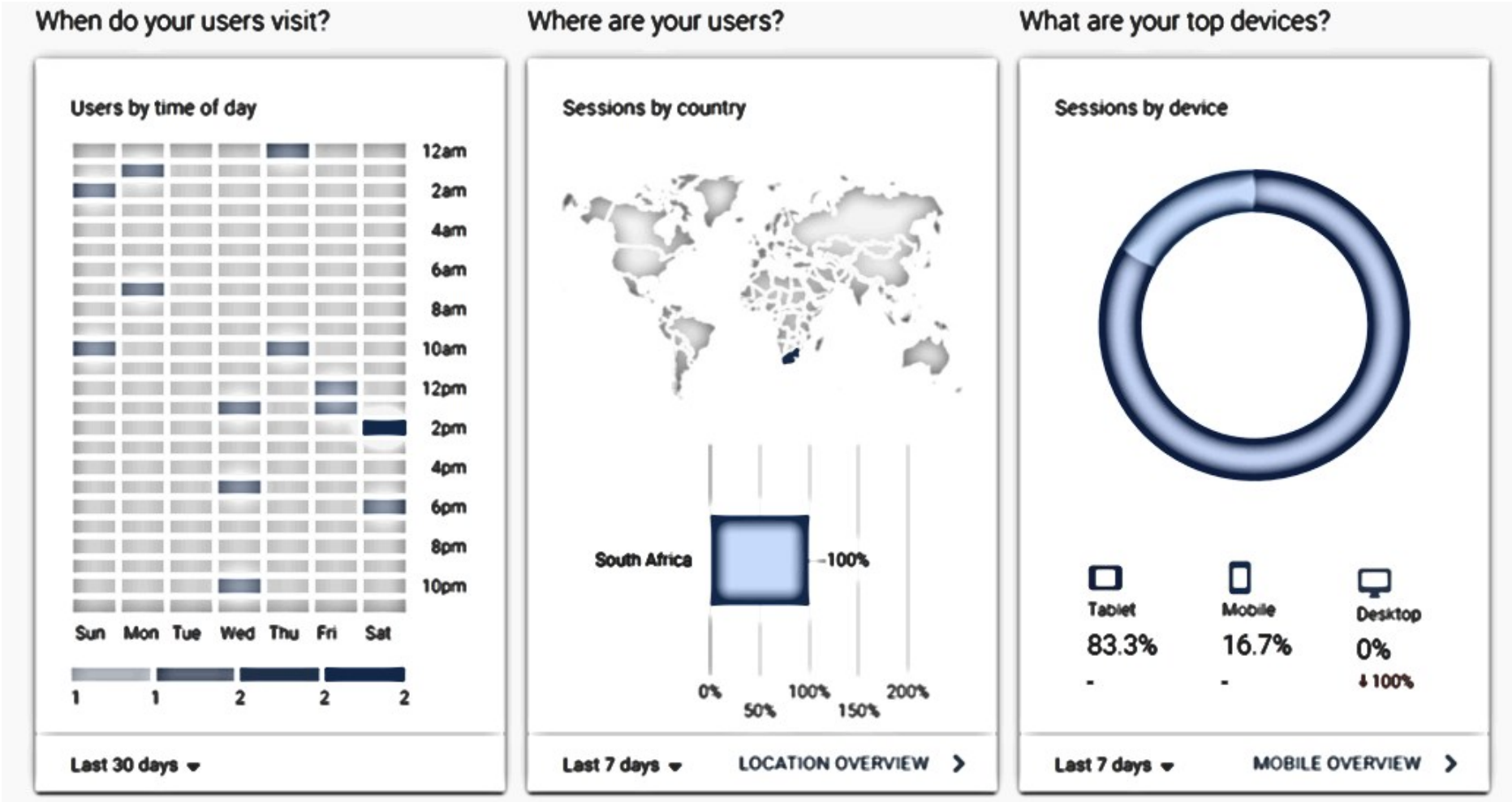

Figure 4S: Geolocation of users and usage over a certain period as well the type of device that was used for each scanning.

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