

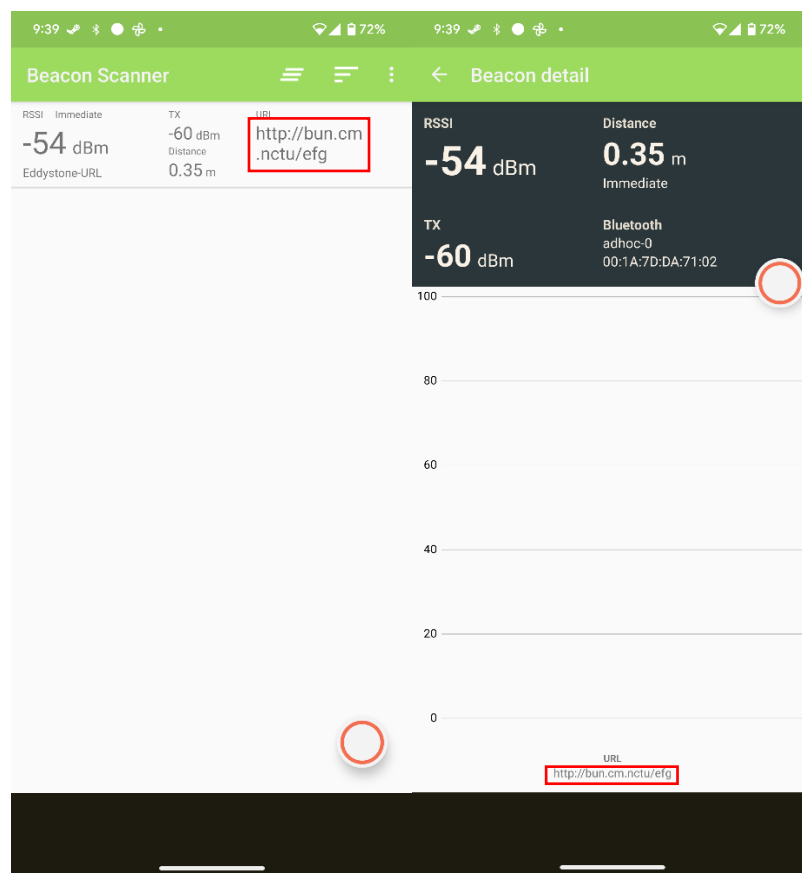
Lab5

311511034 黃聖偉

實驗結果

Q1

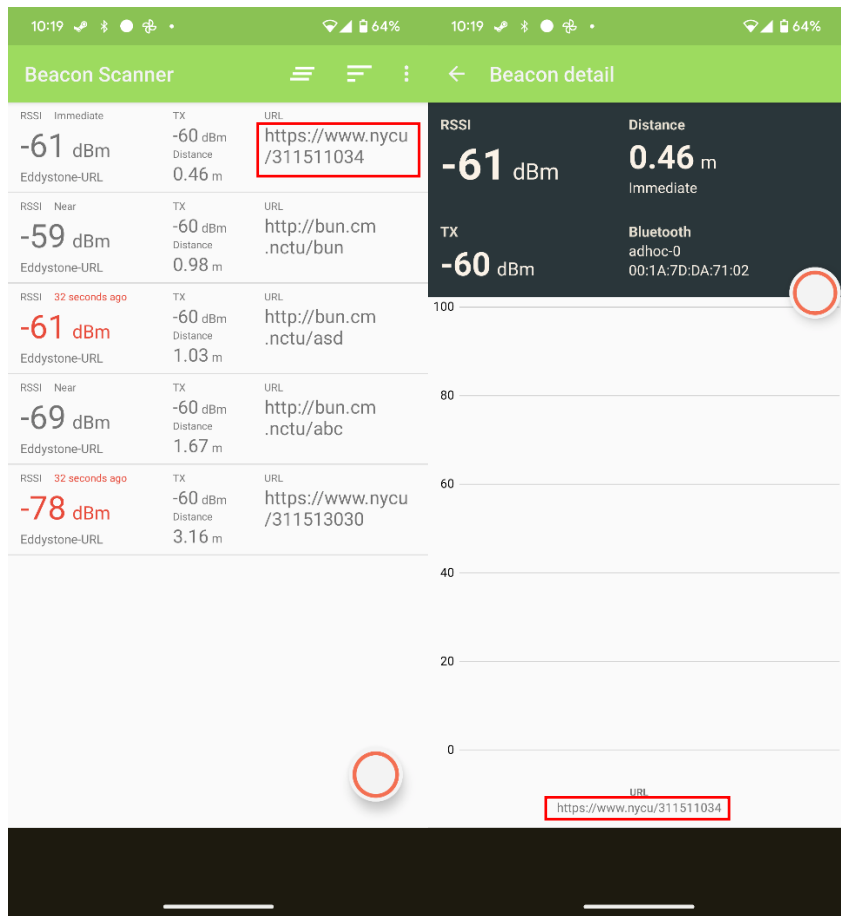
```
adhoc@adhoc:~/2022-NYCU-EECM30070-Wireless-Ad-Hoc-Networks/lab5$ sudo ./advertise-url -u http://bun.cm.nctu/efg
Advertising: http://bun.cm.nctu/efg
adhoc@adhoc:~/2022-NYCU-EECM30070-Wireless-Ad-Hoc-Networks/lab5$
```



Q2

```
$ hci.sh M X advertise-url  
lab5> $ hci.sh  
1 sudo hciconfig hci0 leadv3  
2 sudo hciconfig hci0 noscan  
3  
4 # sudo hcitool -i hci0 cmd 0x08 0x0008 1D 02 01 1a 03 03 aa fe 15 16 aa fe 10 ed 01 6E 79 63 75 2F 33 31 31 35 31 31 30 33 34 0A 00 00  
# sudo hcitool -i hci0 cmd 0x08 0x0008 14 02 01 1a 03 03 aa fe 0c 16 aa fe 10 ed 02 70 74 74 2e 63 63 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
● adhoc@adhoc:~/2022-NYCU-EECM30070-Wireless-Ad-Hoc-Networks/lab5$ cat hci.sh  
sudo hciconfig hci0 leadv3  
sudo hciconfig hci0 noscan  
sudo hcitool -i hci0 cmd 0x08 0x0008 1D 02 01 1a 03 03 aa fe 15 16 aa fe 10 ed 01 6E 79 63 75 2F 33 31 31 35 31 31 30 33 34 0A 00 00  
# sudo hcitool -i hci0 cmd 0x08 0x0008 14 02 01 1a 03 03 aa fe 0c 16 aa fe 10 ed 02 70 74 74 2e 63 63 00 00 00 00 00 00 00 00 00 00 00 00 00  
● dhoc:~/2022-NYCU-EECM30070-Wireless-Ad-Hoc-Networks/lab5$ ./hci.sh  
LE set advertise enable on hci0 returned status 12  
< HCI Command: ogf 0x08, ocf 0x0008, plen 32  
  1D 02 01 1A 03 03 AA FE 15 16 AA FE 10 ED 01 6E 79 63 75 2F  
  33 31 31 35 31 31 30 33 34 0A 00 00  
> HCI Event: 0x0e plen 4  
  01 08 20 00  
○ adhoc@adhoc:~/2022-NYCU-EECM30070-Wireless-Ad-Hoc-Networks/lab5$
```



需要傳送的網址為 <https://www.nycu/311511034>，透過講義提供的 Eddystone 前綴表加上 ASCII 轉換表，可以把以上網址轉換成 16 進位表示。Eddystone 很聰明的使用前綴表自訂義一些常見的網址前綴，可以減少需要傳送的資料量，如 https://www. 原本需要 12 byte，透過表格只需要用 1 byte 0x01 就可以表示。

Eddystone 前綴表

Decimal	Hex	Expansion
0	0x00	http://www.
1	0x01	https://www.
2	0x02	http://
3	0x03	https://

ASCII 轉換表

dec	hex	oct	char	dec	hex	oct	char	dec	hex	oct	char	dec	hex	oct	char
0	0	000	NULL	32	20	040	space	64	40	100	@	96	60	140	~
1	1	001	SOH	33	21	041	!	65	41	101	A	97	61	141	a
2	2	002	STX	34	22	042	"	66	42	102	B	98	62	142	b
3	3	003	ETX	35	23	043	#	67	43	103	C	99	63	143	c
4	4	004	EOF	36	24	044	\$	68	44	104	D	100	64	144	d
5	5	005	ENQ	37	25	045	%	69	45	105	E	101	65	145	e
6	6	006	ACK	38	26	046	&	70	46	106	F	102	66	146	f
7	7	007	BEL	39	27	047	'	71	47	107	G	103	67	147	g
8	8	010	BS	40	28	050	(	72	48	110	H	104	68	150	h
9	9	011	TAB	41	29	051	)	73	49	111	I	105	69	151	i
10	a	012	LF	42	2a	052	*	74	4a	112	J	106	6a	152	j
11	b	013	VT	43	2b	053	+	75	4b	113	K	107	6b	153	k
12	c	014	FF	44	2c	054	,	76	4c	114	L	108	6c	154	l
13	d	015	CR	45	2d	055	-	77	4d	115	M	109	6d	155	m
14	e	016	SO	46	2e	056	.	78	4e	116	N	110	6e	156	n
15	f	017	SI	47	2f	057	/	79	4f	117	O	111	6f	157	o
16	10	020	DLE	48	30	060	0	80	50	120	P	112	70	160	p
17	11	021	DC1	49	31	061	1	81	51	121	Q	113	71	161	q
18	12	022	DC2	50	32	062	2	82	52	122	R	114	72	162	r
19	13	023	DC3	51	33	063	3	83	53	123	S	115	73	163	s
20	14	024	DC4	52	34	064	4	84	54	124	T	116	74	164	t
21	15	025	NAK	53	35	065	5	85	55	125	U	117	75	165	u
22	16	026	SYN	54	36	066	6	86	56	126	V	118	76	166	v
23	17	027	ETB	55	37	067	7	87	57	127	W	119	77	167	w
24	18	030	CAN	56	38	070	8	88	58	130	X	120	78	170	x
25	19	031	EM	57	39	071	9	89	59	131	Y	121	79	171	y
26	1a	032	SUB	58	3a	072	:	90	5a	132	Z	122	7a	172	z
27	1b	033	ESC	59	3b	073	;	91	5b	133	[	123	7b	173	{
28	1c	034	FS	60	3c	074	<	92	5c	134	\	124	7c	174	|
29	1d	035	GS	61	3d	075	=	93	5d	135	]	125	7d	175	}
30	1e	036	RS	62	3e	076	>	94	5e	136	^	126	7e	176	~
31	1f	037	US	63	3f	077	?	95	5f	137	_	127	7f	177	DEL

轉換結果

數值(16 進位)	網址
0x01	https://www.
0x6E	n
0x79	y
0x63	c
0x75	u
0x2F	/
0x33	3
0x31	1
0x31	1
0x35	5
0x31	1
0x31	1
0x30	0
0x33	3
0x34	4