

Adware Campaign Identified From 182 Game and Camera Apps on Google Play and Third- Party Stores Like 9Apps

Appendix

Indicators of Compromise (IoCs)

Package Name	App Name
com.magicvcam.mine.ygycamera.magic	Magic Camera
com.frog.crushtoy.blast	Frog Crush
com.onestoke.games.www.puzzlegame	One Line Stroke
com.candy.crushfunny.toystoys	Toy Smash
com.tools.blur.master.editor	Blur Master
com.tools.blur.master.editor	Blur Master
com.selfiecam.photos	Selfie Camera
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.magicvcam.tool.beauty.camera	Beauty Camera
com.onestoke.games.www.puzzlegame	One Line Stroke
com.candy.crushfunny.toystoys	Toy Smash
com.onestoke.games.www.puzzlegame	One Line Stroke
com.magicvcam.tool.beauty.camera	Beauty Camera
com.jelly.crush.europam.games	Jelly Crush
com.candy.crushfunny.toystoys	Toy Smash
com.candy.crushfunny.toystoys	Toy Smash
com.magicvcam.beauty.yoobao.camera	Beauty Camera
com.toy.blast.cube.crush.toysfun	Toy Blast
com.magicvcam.ygycamera.magic.tool	Magic Camera
com.magicvcam.beauty.yoobao.camera	Beauty Camera
com.onestoke.games.www.puzzlegame	One Line Stroke
com.magicvcam.ygycamera.magic.tool	Magic Camera
com.toy.blast.cube.crush.toysfun	Toy Blast
com.toy.blast.cube.crush.toysfun	Toy Blast
com.onestoke.games.www.puzzlegame	One Line Stroke
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.toy.blast.cube.crush.toysfun	Toy Blast
com.candy.crushfunny.toystoys	Toy Smash
com.ygy.find.spot.the.difference	Find Differences
com.magicvcam.beauty.yoobao.camera	Beauty Camera

com.magicvcam.beauty.yoobao.camera	Beauty Camera
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.ygy.find.spot.the.difference	Find Differences
com.magicvcam.beauty.yoobao.camera	Beauty Camera
com.mob.wongame.color.house	Color House
com.Beauty.Camera	360 Camera
com.owl.yg.ycamera	Owl Camera
com.ygy.magic.camera	Sweet Camera
com.face.camera360	361 Camera
com.owl.yg.ycamera	Owl Camera
com.owl.yg.ycamera	Owl Camera
com.owl.yg.ycamera	Owl Camera
com.owl.yg.ycamera	Owl Camera
com.owl.yg.ycamera	Owl Camera
com.super.photo.ygy.camera	Super Camera
com.funny.camera.top	999 Camera
com.funny.camera.top	999 Camera
com.funny.camera.top	999 Camera
com.music.play.hi.cloud	Hi Music Play
com.super.photo.ygy.camera	Super Camera
com.music.play.hi.cloud	Hi Music Play
com.funny.camera.top	999 Camera
com.blurcam.pro.usefultools	Blur Camera
com.super.photo.ygy.camera	Super Camera
com.super.photo.ygy.camera	Super Camera
com.music.play.hi.cloud	Hi Music Play
com.music.play.hi.cloud	Hi Music Play
com.cam999.filters.beauty	999 Camera
com.cam999.beautycam.camera	Super Camera
com.soon.ygy.photograph.camera	Soon Camera
com.camera.easy.photo.beauty	Easy Camera
com.camera.ygysuper.photograph	Super Camera
com.soon.ygy.photograph.camera	Soon Camera
com.camera.easy.photo.beauty.Pro	Easy Camera Pro

com.camera.easy.photo.beauty	Easy Camera
com.connect.smash.game.firegame	Connect Smash
com.soon.ygy.photograph.camera	Soon Camera
com.camera.easy.photo.beauty.Pro	Easy Camera Pro
com.camera.easy.photo.beauty	Easy Camera
com.connect.smash.game.firegame	Connect Smash
com.connect.smash.game.firegame	Connect Smash
com.magicvcam.meet.photograph	Meet Camera
com.magicvcam.meet.photograph	Meet Camera
com.mobwontools.pixel.blur.editor	Pixel Blur
com.connect.dots.maker.drawonline	Draw 1 Line
com.blur.img.png.jpge.fast	Fast Blur
com.time.date.stamp.camera.xixifunction	Date Stamp Camera
com.time.date.stamp.camera.xixifunction	Date Stamp Camera
com.blur.img.png.jpge.fast	Fast Blur
com.connect.dots.maker.drawonline	Draw 1 Line
com.magicvcam.meet.photograph	Meet Camera
com.mobwontools.pixel.blur.editor	Pixel Blur
com.blur.img.png.jpge.fast	Fast Blur
com.pic.photo.editor.eraser	PIC Eraser
com.pic.photo.editor.eraser	PIC Eraser
com.magicvcam.meet.photograph	Meet Camera
com.time.date.stamp.camera.xixifunction	Date Stamp Camera
com.video.master.face.fb	Video Player
com.time.date.stamp.camera.xixifunction	Date Stamp Camera
com.blur.img.png.jpge.fast	Fast Blur
com.blur.img.png.jpge.fast	Fast Blur
com.time.date.stamp.camera.xixifunction	Date Stamp Camera
com.blur.img.png.jpge.fast	Fast Blur
com.pic.photo.editor.eraser	PIC Eraser
com.mobwontools.pixel.blur.editor	Pixel Blur
com.video.player.ygyhd	HD Video Player
com.magicvcam.meet.photograph	Meet Camera

com.connect.dots.maker.drawonline	Draw 1 Line
com.magicvcam.camera.meet	Meet Camera
com.mobwontools.pixel.blur.editor	Pixel Blur
com.quick.blur.face.you.pic	Quick Blur
com.mobwontools.pixel.blur.editor	Pixel Blur
com.box.checkers.chess.free	Checkers box
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.box.checkers.chess.free	Checkers box
com.tools.blur.master.editor	Blur Master
com.magicvcam.camera.newmeet	Meet Camera
com.tools.blur.master.editor	Blur Master
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.game.connect.together.firegame	Connect Together
com.puzzle.ygyline.onestroke	One Stroke Line Puzzle
com.puzzle.lines1.drawstroke	One-line Draw Puzzle Stroke

Table 1. Fake Apps Removed from the Google Play Store

SHA-256 (AndroidOS_HiddenAd.HRXAA)
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08D1DBD34245CED1DF54F018D0CE663A8FDAFFABCE7F3C72B67E5660FA35CD21
151F2E99206A7E8759CB350533FF1AABDEE70BA795F9E3C47346D0A46A651982
1F0368C25475868F0F5E9F6D425A19FC5FF85AED7E8902C30BFDB6077A60955E
1F4C0BD40FF424D62228C703CC4FF84B0C38DE0C82523F7F8B06F0C6E2FA8FEC
23036D181FB038C18408B14914FDF95140A605EA297C42237E8B19E7C5A335B6
273D4CA76A6822D5DE1728DAFEF417845F5ABB674801444FCCF679BCA928F48C
286C19A3021BCEC5F45BDC5A66B47A7DC5A3182348FC2F78C3363C73A19F2EFA
2A596E343A18AF7D68C7BF0B975C51AE3104891A4BA98ABE27CBD09CE4978CDF
3B4F36EA3142548E07A43C28A1FF253F42B27E02725CBC2D3825F2405FB574E4
3E1D3BE77F954CDBA66647B843F9A7135AEF505CF40BE195824FF78B083F9DBF
4501CDD568402417503A16B4FF41B3B5AE18C2E67A528309501ADDE98329AEB8
4FC14EEB77CA89AAB3D526E955ABFA6DD4D905C122A39190472A6F9E82388789
516CF6907EAE918A56ACF9C6BBD5562384CB6919CF4D6B079F88DFF1B39AC12
52D5761D471F8F24A9F420D417909E98068C30CA21037EAE9F5C61E07CA865F5

57EC273D8091B2768945CBCE13819F6B1D2811E98FE7595376DE9DC15597E265
58ED39C6FF742BFE02F7A799651A376E4EB6689684716D8E9C52D2538247DB86
5AA35D727E6EFAC00A21253E53FA7D4D17FC3C8668BC93348E39F55D9BC94250
5BF30BD30848E0CB76E398F76BEB21E43AB0CB9AD876951EFAAF2E2F7C1194C7
5CC90679F8B0379FD60DA17750C5823852CE2A4A58EE56A6D81AEE9FC7EFA65A
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63D0334C4B794908BAA50D578CA3BEABDE2E80AF34CE3F3678D96C25D521BC36
6B8147306FEF4D3758A3B7CAA3B16097DDC0D3BBF9A038DA9F5E8C041E1031FA
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776B0A9E5D06A239579EA758C76DB46DC0FCD5662BC8D257ED97EC9AF5A1B844
796B1D610734B36B81DEA62239010826F9C95335DE5A2AAE15D99DE56FB69900
8CD8C53A8DD17345DDAEBED15CA390E20705C84512A27CB9D4EDDACDA4E6D025
8EAA346C72D55011E02030833D764F19A9E0CA703444F01E6AEFEE9A0AE3C8E2
90E313FDABE465E398070E6C254C36F61E79A9EB5EDAADF458550B3A88C8D1A0
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A69EFD545F0ECCB7CABBA6EC6CF4FA653F1A60DA5B0A979A0C5AEF7EA0D92375
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BC7D1C207549DB4F1A1ECDEC75AA2B0DB5AD43CFDB17CA256296A39A589F8B59
BC915AAD77E22B01DE11268D976446B87FE6CC908C27A20E3330B8E19E67DA51
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C4A36FB48C66A3CDC7DA4A608CDE363C84CC4FAC1DADE319F0840A3A7612E0E3
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D40E59932751261D42F61C04FF9395F59DAD54036C726F476DB5AECD83206B00
DA233459930928B14927E7DCF89F6B10BCB3883EEB0FB0232EBB3FC57B8152BE
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E3295666AEE09A6CA4A1D5A9EAB420456FD910EB3E4B2D4279AB3847FD4CE557
E410F20CC67A740B08B91254F756137A58F4E8F8288799673502F1ADE830C360
F2E260C122552CAC14D04B50D8AC941678C58FDE314F7E625797B8C567F17431
F2ED931824CB10CCED88D27F67020912EFC848B669146F208335FBB5468E96C9
F4CB0398B00FEFEB601C8157FAD731314A8D8E3F48F3A8D47057FA729D9FFCEF
F6F1AE265B835259C9A356D4AD3544C202D666E81F065519185A7CCA67499C7C
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FA68C2A734170716CE8611E197AA1C50334DFE0206C7FAD97F07318FED0ED62C

Table 2. SHA-256 Hashes for AndroidOS_HiddenAd.HRXAA

SHA-256 (AndroidOS_HiddenAd.GCLA)
01933E569C8EE2BA470FA6A6487DD137F8D2F877838D25DE324E1EC6A0D71DE2
0294D5B2520326B4785A12D57B9F4D6C288D6B8E387EF7BC2ED9D658F5916752
0331158B9CCF5A39F3CE71A712BDD0C79C4F81617003E457F1A4E873EB70ADFD
078EE9B9A8068E40D635F0D82105C718D0AE6B111ECB7FD5CB2D88E4B19740DD
0B11CFD3C6D50D18C5C6FB9051F78DA277BD603318612AE33736F10E92FF8AC3
0CE0C177DDCCEBEFBD2B593FD8B5BC15BA84037B90497BD8E3FB0D3D6F513402
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117BB585E7D04D0019B3F313029717A908CB5B04CB966FDD42160BCC0269C380
1190899E709C03C6E820D187448BB31023891C94C79E4B7985A4BB261CFAC579
13A850C1E029A3142505342873927C286E5EA3C6E13F899B80DF2AAC2C82F4D1
148F1DCCA75A50B8699B3BEA9D6B97F3765C035E118784BB75600D0D5E400790
16DD39817A15B8B490765A7DE89C69DC010DFB55BA85F87D052481DC2F22B5C7
18B31F50CEBF5FEE90B7798A3A2527C7C2AD998FEE19AD0BD3BB8EC42DF79CD3
1BA435BD0F95E3FA7D3FA38E7BC00FDEF51451368557C42CEFB4DDB6DFC01718
1C1DA03D3E9D0E1B6DC9022AFEF69AD719FBD5806283F22DA1618ED2CC051CAC
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1DD7C9FE7A52BC68BBC0CFD24C9BCACE0BE300312860CD821E0B8837DC100BDC
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235A7E9F101D3DD7F24CA24C8BDBDC22DB8DBF92FBA7E9227C078A9443B78621
2AE02A0525ED39B0B2C80049EF904FAECCFFCEAF3C2AB70B5A1A8991C1D0C6370
2FE81DC6A75A478C340809807F2666DBC804FF965002D3794C2E3C896BB3918A
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3262FC5074C9346B861A77BB02BDBF2E7F1BA23269DA6B510F348EC63EDA5634
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366BE0043A929F4617A56A37B28FE51337147628DB912B2298CA10D1A21D5B95
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4E27EF23AE4A4489ABAA44618665F6DA126C3CBEF44EE40C5C5446F814AA55E7
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53CD6700ADEB5AC6226AA91D8C3CAA2255DC2C831AFC1265337AD996629478FA
54622BF9CB37E375091E76B7198C65DDB11770D9BA10B5A647A768DD73248886
54F25FC83409C79E2C23F7C6409FF5F1B1F0C6B283BB7AB1CCFD9A63820E7F55
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9557320C58C3974CB94E52D82AC0278503170C663358C126BB83F329642A4F28
96DE4CEA8C52747849F5974C07E587E84E744B04945080588E54BB30093E0232
97FB8AAD01D583B84D5F8AA9955D40C7DD411A678D7A797145BE4B8A61BE69B2
9819B73D52F651EFFFC47E90946777CF9EC350AB896D1074CBEC000FE1121628
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9AAFE43D6541A2F71793F27475DE0A14B86AD7EA038A0B5351B285062143CBD
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AD6796F682E76EAB5AC547067005D0EEC317FAD06F69ED34A9A5BA5AA0FF6C56
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Table 3. SHA-256 Hashes for AndroidOS_HiddenAd.GCLA

C&C Server	http://atc[.]anncute[.]com/v2/gp2
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