

論文 / 著書情報
Article / Book Information

題目(和文)	Image SuperDistribution System: デジタル画像を媒体としたコンテンツ配信インフラ
Title(English)	Image SuperDistribution System: New content distribution infrastructure using digital images
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出典(和文)	学位:博士(工学), 学位授与機関:東京工業大学, 報告番号:甲第11292号, 授与年月日:2019年9月20日, 学位の種別:課程博士, 審査員:権藤 克彦,小池 英樹,渡部 卓雄,西崎 真也,齋藤 豪,比嘉 邦彦
Citation(English)	Degree:Doctor (Engineering), Conferring organization: Tokyo Institute of Technology, Report number:甲第11292号, Conferred date:2019/9/20, Degree Type:Course doctor, Examiner:,,,,,
学位種別(和文)	博士論文
Category(English)	Doctoral Thesis
種別(和文)	論文要旨
Type(English)	Summary

(博士課程)
Doctoral Program

論文要旨

THESIS SUMMARY

系・コース： Department of, Graduate major in	情報工学 情報工学	系 コース	申請学位 (専攻分野)： Academic Degree Requested	博士 Doctor of	(工学)
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要旨 (英文 800 語程度)

Thesis Summary (approx.800 English Words)

Content Providers (e.g., Disney, Sony), who make content, distribute their own content through Content Platformers (e.g., Netflix, Amazon) on the mobile devices for the security and platform dependency reasons. One of the reasons why Content Providers use Content Platformers is that it is required to not only build and deploy a native application of iOS and Android to play and save content, but also make users download it, to distribute digital content on the mobile. However, it is not easy for all the Content Providers to develop a native application, so that they still have been using Content Platformers. As a result, users have to use Content Platformers' applications, and Content Platformers take a revenue share, which adversely affects the profit of Content Providers. To distribute content without Content Platformers and Content Providers' platforms, the most important thing is that a platform-independent material is required to connect a user to content. Basically, the distributed content cannot be saved without a native application on the mobile, because the content file itself cannot be saved without an encryption logic on the user's device for a security reason. To break the rule, the new platform-independent material needs to be developed to save the content without an application. It should be intrigued to a user, easy to be integrated, have no dependency on Content Platformers and cheap.

In this paper, a new content distribution model is proposed using digital images, which is Image SuperDistribution System (ISDS). The model uses digital images as content distribution media with a new color Codemark, Robust Index Code (RIC), for this use-case, which is also proposed on this paper. RIC is proposed as a brand new robust Codemark targeting digital images so that it makes possible to link content with a digital image. Until now, the main purpose of Codemark is to distribute digital content using offline media. Due to the main purpose of Codemark, it cannot be used on digital images. It has a high robustness on only printed images. Hence, RIC is designed with high robustness on JPEG Compression and Resize targeting digital images compared to existing researches, such as QR Code. In addition, RIC embeds a remote database index to digital images so that users can reach to any digital content from images. Experimental results, using RIC encoder and decoder, have shown high robustness on JPEG Comp. and Resize of the RIC. The embedded database indexes can be extracted 100% on 960 pixels and PSNR 16 above. RIC images can be used as a platform-independent material and new content distribution model ISDS can be realized.

In ISDS, Content Providers upload their content to our implemented content pool console of an open content server or a Content Provider's server. Subsequently, a RIC image and a URL, linked with the uploaded content, will be generated. Users can easily access the content clicking the URL or decoding the RIC image with the RIC SDK. Not only a URL and an image are platform-independent materials but also SuperDistribution infrastructure is open dissemination of content so that this system does not depend on specific applications or Content Platformers on the distribution process. Of course, only a URL may be used for the content distribution, but a URL is easily mistaken and it is hard to imagine to manage all the content as URLs which he or she bought. Hence, saving content as a digital image into the device gallery makes a user manage all the content and open them easily. Finally, the new system achieves increasing user's convenience and independence from Content Platformers.

備考：論文要旨は、和文 2000 字と英文 300 語を 1 部ずつ提出するか、もしくは英文 800 語を 1 部提出してください。

Note: Thesis Summary should be submitted in either a copy of 2000 Japanese Characters and 300 Words (English) or 1 copy of 800 Words (English).

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