

Compressed QR code-based mobile voice guidance service for the visually disabled

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Abstract—This Study is about automatic reading of text for visually disabled persons or children. Usually, they often have difficulty reading letters even if they understand and know the language. Though this research, Using QR code and text compression algorithm SMAZ and TTS, it is possible to develop a system that automatically reads storybooks, location information guides, etc. to improve the learning effect of children and improve the living quality of visually disabled people.

Keyword— Visually Disabled, QR code, TTS, SMAZ, Short Text Compression



Jung Hoon Kim

Bachelor of Pharmacy, Seoul National University (2002), Master of Health Science, Graduate School of Public Health, Seoul National University (2010), Completed Ph.D. in Health Science, Graduate School of Public Health, Seoul National University (2013), Master's course (2017) of Software Convergence, KyungHee University, CEO of BinaryLab (Electric prescription QR code compression company, 2016-).

Mr. Jung Hoon Kim is a specialist in short message compression technology that developed a compression barcode technology for electronic prescription. He has been involved in research and commercialization for more than 13 years in the fields of pharmacy, healthcare and medicine. He has been working as a consultant for statistics on drug DB and drug use in BITCOM, KIMS, and IMS Healthcare.



Min Seo Kim

Hansung Science High School.

In this study, Mr. Min Seo Kim analyzed the QR code compressed by SMAZ with ZXING and developed Android application that can read it by TTS. He is an excellent science and engineering high school student with a strong interest in mobile application development and algorithm research.



Taejun Yang

Hansung Science High School.

In this study, Mr. Taejun Yang conducted preliminary research on open source algorithms and planning and development of applications for the visually impaired. He is interested in researching application software using Python.



Insu Kim

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In this study, Mr. In Soo Kim conducted a preliminary literature survey on the types and problems of visually impaired users and the points necessary for the visually impaired to use QR codes.



Jun Seo

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In this study, Mr. Jun Seo performed UX / UI test and exception handling / bug test in development of application for the visually impaired.



Sun Moo Kang

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