

Emergency Response

Representative Patent 01

- ❖ Title of Invention : **Damage detection system and method**
- ❖ Application Number : KR2014-0174046

Application of Technology and Field of Use

◆ Analysis of crack in large structure

◆ Existing equipment that analyzes cracks requires continuous monitoring

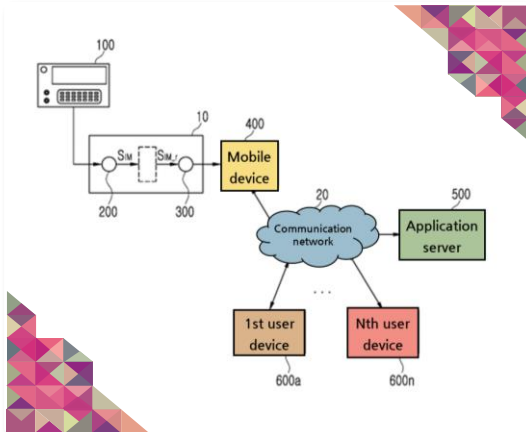
- Management takes a lot of time because the administrator has to continuously monitor the analysis equipment.

◆ Difficult in accurately detecting cracks with existing equipment

- Although the method of detecting cracks by analyzing X-rays is effective for detecting cracks that have a volume and are open, it is difficult to accurately detect and evaluate closed small cracks with this method.

Features of Technology

- An actuator configured to radiate an impulse signal generated by a signal generator to a detection target
- A sensor configured to receive an impulse response signal corresponding to the impulse signal
- A portable terminal configured to analyze the received impulse response signal to determine whether the detection target is damaged and a damaged site



<Representative drawing>

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Technical Effects

◆ Possible to detect damaged area without separate analysis equipment

- It is possible to determine whether the detection target is damaged and a damaged site by using an application provided in a mobile terminal without separate analysis equipment.

◆ Possible to share results with other users

- Since a result obtained by the mobile terminal can be transmitted to another user terminal, the result can be conveniently shared with other administrators.

◆ Possible to save time by eliminating the need to manage equipment

- It is possible to save time by eliminating the need for administrators to constantly monitor the analysis equipment.

Social, Environmental, Economical Effects



〈Structure safety diagnosis method
using existing articulated vehicle〉

◆ Possible to reduce costs with no need for expensive equipment

- Since the application provided in the mobile terminal is used without additional analysis equipment, expensive analysis equipment is not required, thereby reducing costs.

◆ Possible to detect cracks occurring in various types of structures

- By early detection of internal cracks in various structures such as power plants, aircraft, ships, bridges, or nuclear reactors, disasters can be prepared.