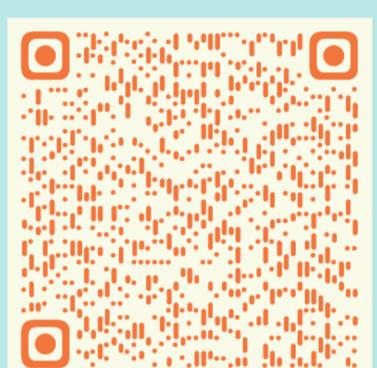
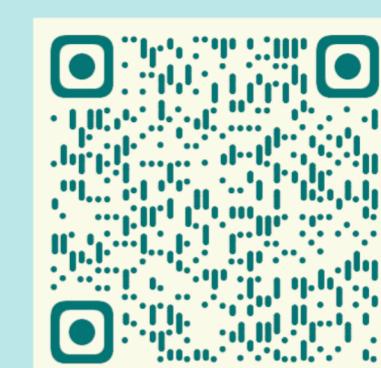


# DesignWatch: Analyzing Users' Operations of Mobile Apps

## Based on Screen Recordings

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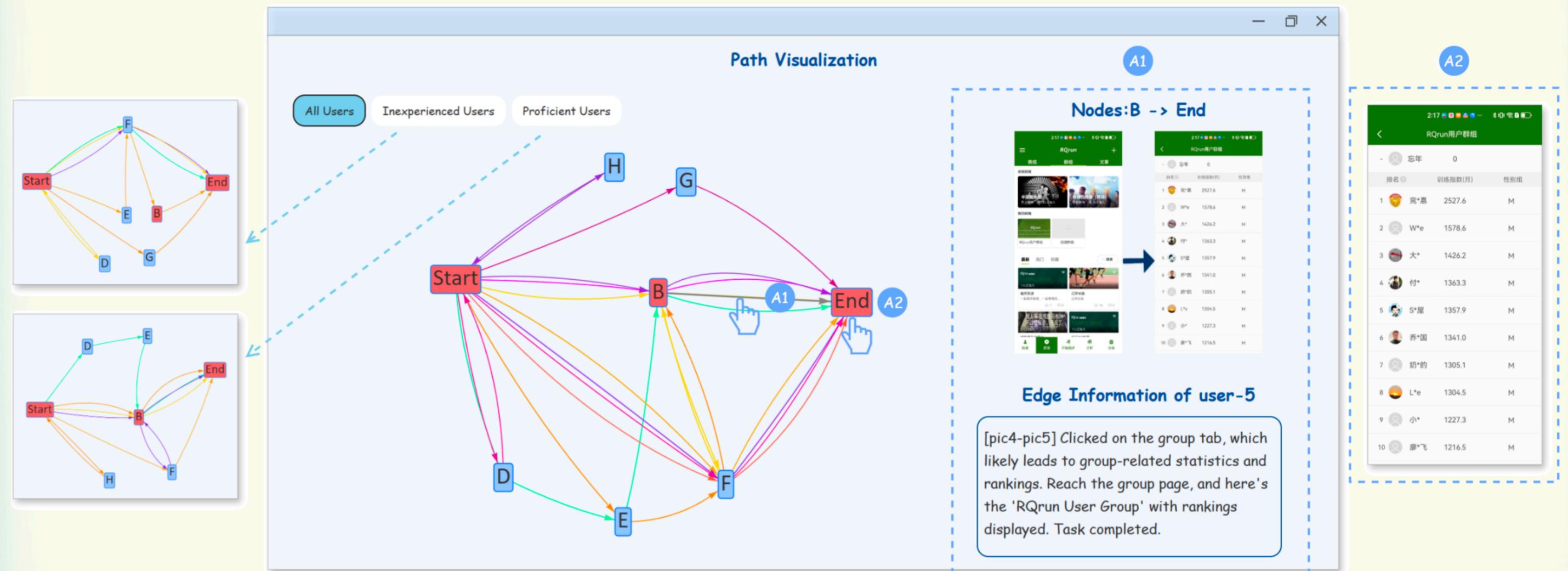
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## Motivation

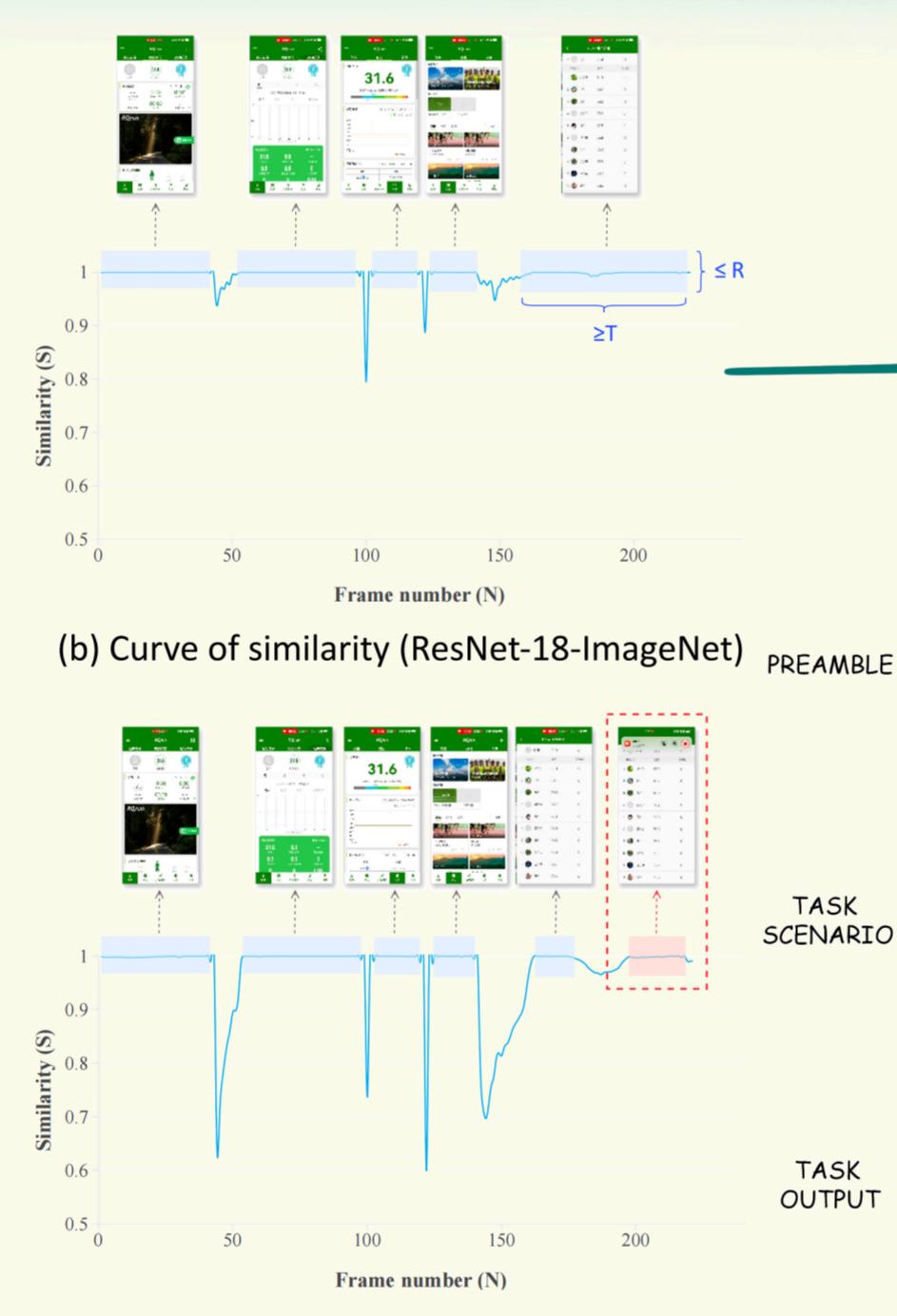
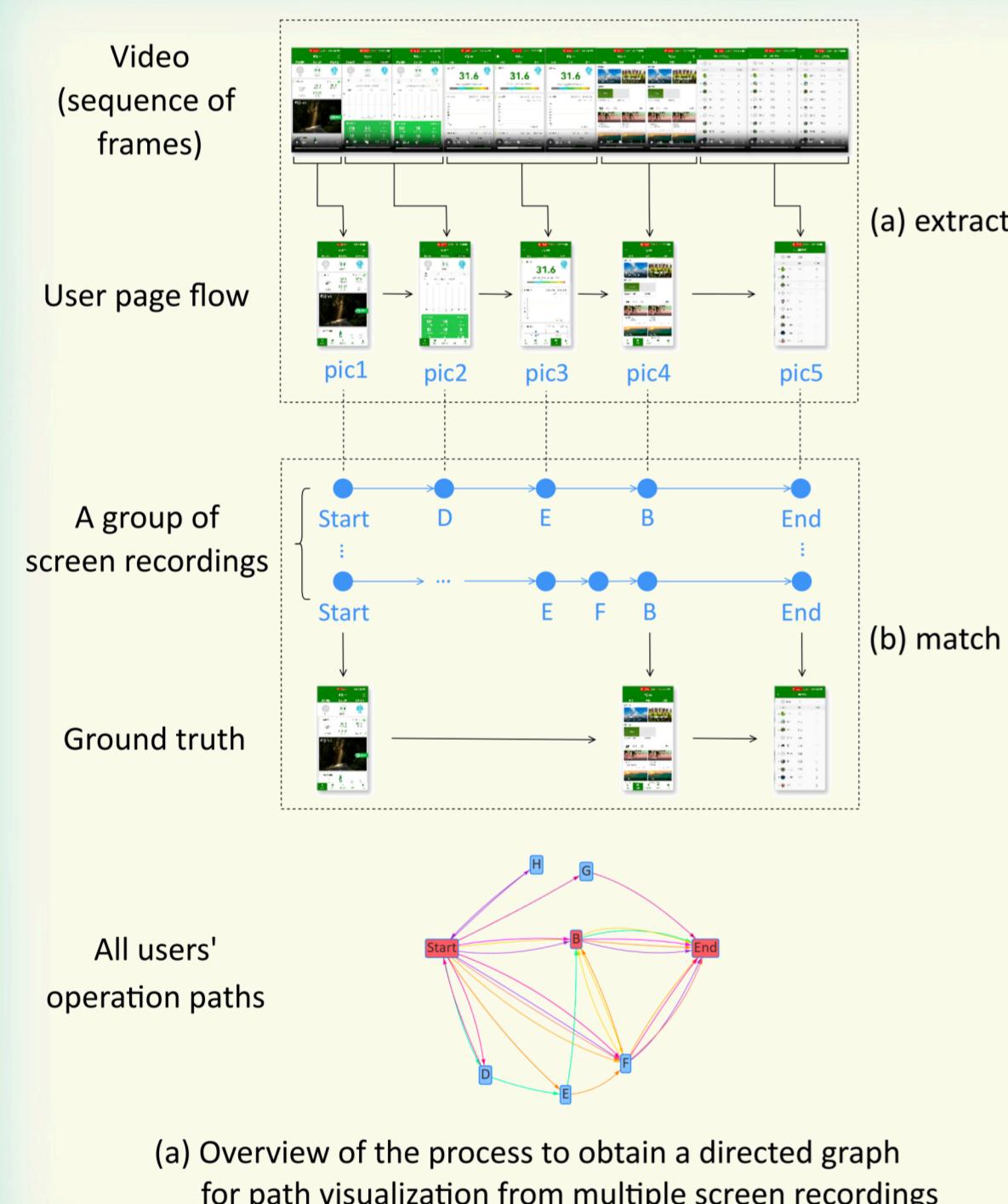
Usability testing is essential for designers to identify issues and optimize designs by observing user behavior and preferences during task execution. Screen recordings are a key component of mobile app usability tests, capturing visual changes and user actions to facilitate the analysis of operational procedures. However, the manual review of these recordings is demanding. First, it is difficult to intuitively determine whether users can follow the expected path set by the designers. Besides, observing the videos to understand the specific operations of the users is labor-intensive.

## User Interface

Input: 1) Textual description of an interaction task that the designer requires; 2) The expected user operation path to complete the task; 3) A set of screen recordings.



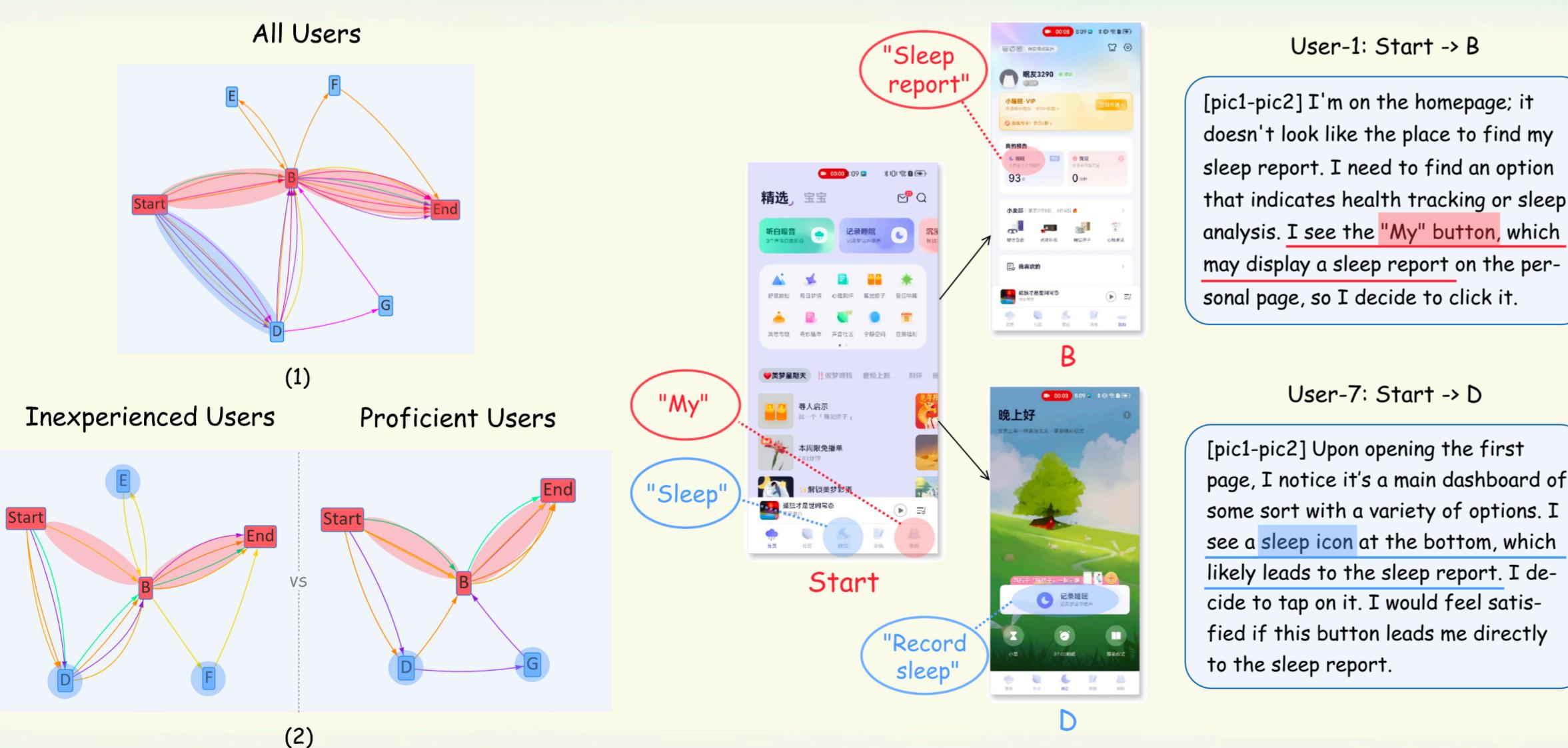
## Implementation



Designers can see an interactive directed graphs representing the users' operation paths.

Designers can get simulated users' thought when conducting this operation

## Case Study



## Takeaways

**DesignWatch Development:** DesignWatch helps designers analyze mobile app usability by converting screen recordings into interactive graphs with detailed operation information.

**Use of Visualization and Multimodal LLMs:** The study highlights the utility of visualization and multimodal LLMs in enhancing usability tests by improving the presentation of operation path and simulating user thought processes.

**Future Plans:** Future evaluations of DesignWatch will include a user study to verify its effectiveness and a field study with designers in real usability tests.