

**Title:** UMnify 2.0: An Enhanced Mobile Portal App Through Native Development Using Cache Replacement Policy and Bilinear Image Scaling

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## **EXECUTIVE SUMMARY**

Cache replacement policy is an instruction or algorithm that optimizes a computer program. This manages a cache of data stored in a memory. When the cache is loaded with plenty of data, the algorithm must choose the set of data to evict to make room for the new ones. Local caching stores data and images to local storage or local database. This avoids repetitive fetching of images on a remote host. This also allows a certain application to display the data even when there is no active connectivity. Caching multiple copies of images on the server saves CPU resource and bandwidth by serving only one copy of image to multiple users and serving just the right image resolution for viewing. With the completion of this study, the researchers aim to produce an application that is more efficient and performs much faster than the previous application.

**Keywords:** Mobile Application, iOS, Android, SDK, HTML5, CSS, Bootstrap, Cordova, Native Development, Image Scaling algorithm, Cache Algorithm, Play Store, App Store, Cloud.