Since 2000, Save.ca has been product of Metroland Media Group Ltd that provided Canadians with coupons, flyers and daily deals. In the initial development stage of its Android application for the flyers component of the product, a decision had to be made regarding whether the users should be required to connect their devices to a wireless internet network due to the large amounts of image data loading in the application. Thus, the purpose of this report is to further explain the significance of this problem, define the design constraints as well as the criteria for evaluating the two alternate solutions, describe the conclusions and make recommendations based on the analytical study.

The decision of how to load the image data from the server dramatically impacts image loading times, image quality and physical location restrictions. All solutions would need to work with the design constraints of human resources, a development schedule, image loading times and memory availability. The comparison of the solutions will evaluate how well each satisfies the criteria of image resolution, smoothness of transitions, and location flexibility.

To determine the effects of requiring constant internet connection, the first solution was evaluated on its retrieval of large amounts of image data from the web servers each time an image was required. This solution provides the user with the most recent flyer information as well as higher resolution images. The alternative solution of using the memory and disk caches can quickly reload already processed bitmaps. This will grant the user a fluid and fast-loading user interface such that the user will experience little to no lag while using the application.

While high resolution images and a large zooming capacity improves the general user experience, reusing cached image data provides greater usability, location convenience, good resource management, and faster load and processing times. It is recommended that an item bar feature be implemented to resolve the issue of unclear or blurry images as these bars can explicitly show the user the selected product information. Also, to reduce memory overuse, expiry dates can be used to indicate when images can be removed from the caches.