

## **Exam Preparation Questions 1**

1. Beyond the core options for developing Mobile Applications, there are several other options that a developer can take to get involved in providing mobile application content.
  - a. Describe two alternative options that can be used for developing content for mobile devices. Include in your description an explanation of the development tools available and the nature of the development process that would be used.
  - b. Outline the options for distributing content for mobile apps. In particular, indicate the payment channels that could be used.
  - c. List design considerations that a mobile content developer will find necessary to improve the end-user experience.
  - d. Describe any risks that selecting each of the possible platforms could bring to the venture.
2. Many mobile applications rely on data accessed from web services to do their job – for example a mapping application on a smartphone.
  - a. Explain how a website (that could host a mobile web-app) differs from a web-service that is used to provide access to a central data store used by a mobile app.
  - b. Web-apps (mobile or otherwise) are restricted by the cross-origin policy. Describe the purpose of this policy, the exceptions that allows web-apps to get around it to access 3<sup>rd</sup> party data, and the nature of the data format that web-apps are restricted to accessing from a cross-domain call.
  - c. Native mobile applications must still provide a measure of protection to the host device while accessing data from web-services. Describe two approaches taken by vendors to limit their device's exposure to malicious web data.
3. During the development process, a mobile application must be executed within a controllable test environment.
  - a. Describe the options available to a small development company or sole trader for testing an application under development.
  - b. Discuss the pros and cons of each of the testing options listed in your answer to Part a).
  - c. Move development environments incorporate options for simulating hardware generated signals and events during development. List examples of these, and explain how developers use them to test their applications.

4. AJAX is the standard method used by web apps to update data that is used as content.
  - a. Describe how AJAX works, with reference to the object built into all current browsers that enables asynchronous updates. Your answer should include either sample AJAX code or pseudo-code to illustrate the core features.
  - b. Although the “X” in AJAX stands for XML, this format is rarely used by web-apps that access data from a different origin URL. Explain why this is, including an explanation of how AJAX is commonly used in these circumstances. Your answer should refer to the format of data returned from a typical service.
  - c. Describe the JSONP format, explaining how it differs from simple JSON and how a web-service’s response to a cross-origin request is modified to match the JSONP requirements.
  - d. Write the JSONP code that would be used to encode a list of (name, email\_address, credit\_limit) values retrieved from a web service, given that the callback function is to a function called show().