NON-INVASIVE REMOTE ACCESS TO AN APPLICATION PROGRAM

BACKGROUND

[0001] Ubiquitous remote access to application programs and data has become commonplace as a result of the growth and availability of broadband and wireless network access. In addition, users are accessing application programs and data using an ever-growing variety of client devices (e.g., mobile devices, table computing devices, *laptop/notebook/desktop computers, etc.). Data may be communicated to the mobile device* from a remote server over a 3G and 4G mobile data networks or wireless networks such as WiFi and WiMax. Most mobile devices have access to the Internet and are able to interact with various types of application programs.

SUMMARY

[0002] Disclosed herein are systems and methods for non-invasively providing remote access to an application program executing on, e.g., a server. In accordance with some implementations, a method for providing remote access to a server-based application program is disclosed. The method includes providing a server remote access program at a server computing device; receiving a communication at the server computer computing device from a client computing device to access ~~an~~the application program; ~~scraping~~providing a screen scraping application at the server computing device to scrape screen data associated with the application program; generating presentation data from the screen data, the presentation data being generated in accordance with a selection of a display region of the application program; updating a state model containing a corresponding state of the application program; and communicating the presentation data and the state model to the client computing device using the server remote access program.

[0003] In accordance with some implementations, another method of providing remote access to ~~aat least one~~ server-based application program is disclosed. The method may include providing a server remote access program at a server computing device; enumerating at least one Uniform Resource Locator (URL) that is associated with the at least one application program; receiving a communication from a client at the at least one URL; ~~scraping~~providing a screen scraping application at the server computing device to scrape screen data associated with the at least one application program associated with the at least one URL; generating presentation data from the screen data, the presentation data being generated in accordance with a selection of a display region of the at least one application program; and communicating the presentation data to the client computing device using the server remote access program.

[0004] In accordance with some implementations, there is provided a method for providing non-invasive remote access to an application program. The method may include providing a server remote access program at a server computing device; providing a screen scraping application at the server computing device that monitors a display interface generated by the application program for changes to the display interface; scraping screen data associated with the display interface; generating presentation data from the screen data, the presentation data being generated in accordance with a selection of a display region of the application program; receiving a request at the server computing device to access the application program; updating a state model containing a corresponding state of the application program, wherein the corresponding state includes at least one logical element containing information about the display interface of the application program; and communicating the presentation data and the state model using the server remote access program in response to the request.

[0005] In accordance with yet other implementations, there is provided a method of providing remote access to a server-based application program that includes providing a remote access program at a server computing device; determining application programs that are executing on the server computing device; enumerating a Uniform Resource Locator (URL) that is associated with each application program determined by the server computing device to be executing; providing access to the URL of each application program determined by the