

UniPubSub – Mobile Computing App Development Project

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Motivation

- ▶ Providing a dedicated platform for university students to share information (Buy/Sell items, Books, Events, Courses)
- ▶ Inspired from the concept of Craigslist
- ▶ Understanding and using Amazon Simple Notification Service
- ▶ Implementing pub-sub architecture to achieve our goals



Current Work

- ▶ Craigslist – Online website and mobile app
- ▶ Online forums for students such as Edulix
- ▶ No exclusive app for university students is present



Goals

- ▶ Provide information exchange platform exclusively for students of various universities
 - ▶ Equip students to –
 - ▶ Create new topics
 - ▶ Search through existing topics
 - ▶ Publish information to specific topics
 - ▶ Subscribe to receive information in a specific topic
 - ▶ Receive email notifications
 - ▶ Provide access to university and category specific topics
 - ▶ Make use of Amazon SNS, pub-sub architecture and Android App Development
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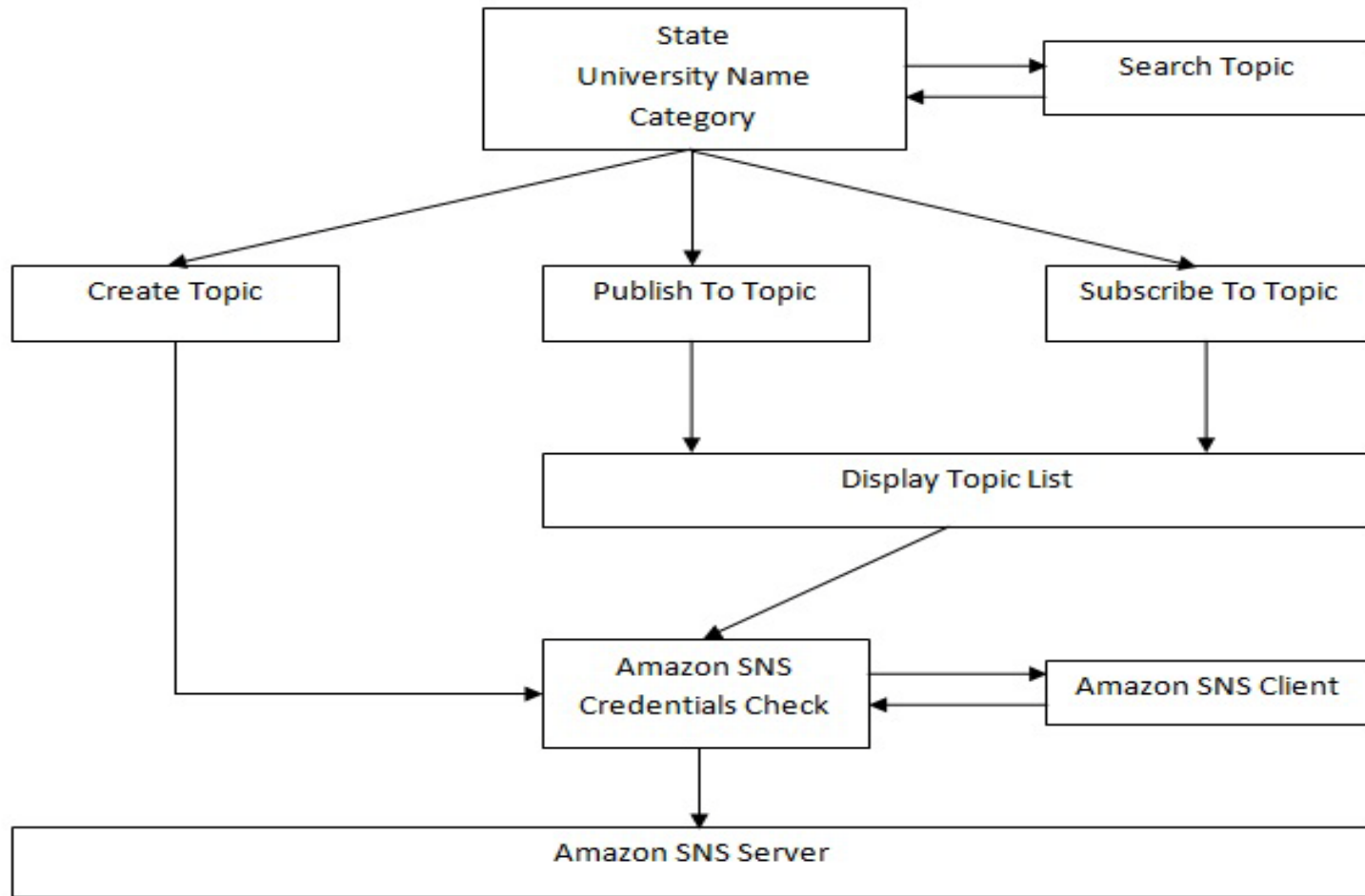


Design and Implementation Considerations

- ▶ Implementation of Pub-Sub architecture
- ▶ Decoupled in time, space and synchronization
- ▶ Access to published information anywhere, anytime
- ▶ Improved scalability as compared with traditional client-server architecture



Architecture



Current Progress

- ▶ Ability to create new topics
- ▶ Search through existing topics
- ▶ Publish information into certain topic
- ▶ Subscribe to specific topics
- ▶ Receive email notifications when information is published
- ▶ Listing states and universities in those states



Analysis

- ▶ Implementing pub-sub architecture by making efficient use of Amazon Simple Notification Service
- ▶ Managed files to populate state, university and category lists
- ▶ Modular architecture to reuse the implemented functionality
- ▶ Efficient use of Java classes and Android API for providing university and category specific topics and performing search



Future Work

- ▶ Improving app security by adding spam filters
- ▶ Displaying published information on mobile devices and allowing to insert images in information publishing
- ▶ Provide personalized usage of UniPubSub (Student Account Management)
- ▶ Implement permissions for publishers and subscribers to restrict their access to all topics, if required.
- ▶ Support for other platforms such as iOS, Windows.



References

- ▶ Amazon Simple Notification Service
 - ▶ <http://aws.amazon.com/sns/>
 - ▶ Craigslist Mobile App
 - ▶ <http://www.craigslist.org/>
 - ▶ Android App Development
 - ▶ <http://developer.android.com/develop/index.html>
 - ▶ Stack Overflow
 - ▶ <http://stackoverflow.com/>
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