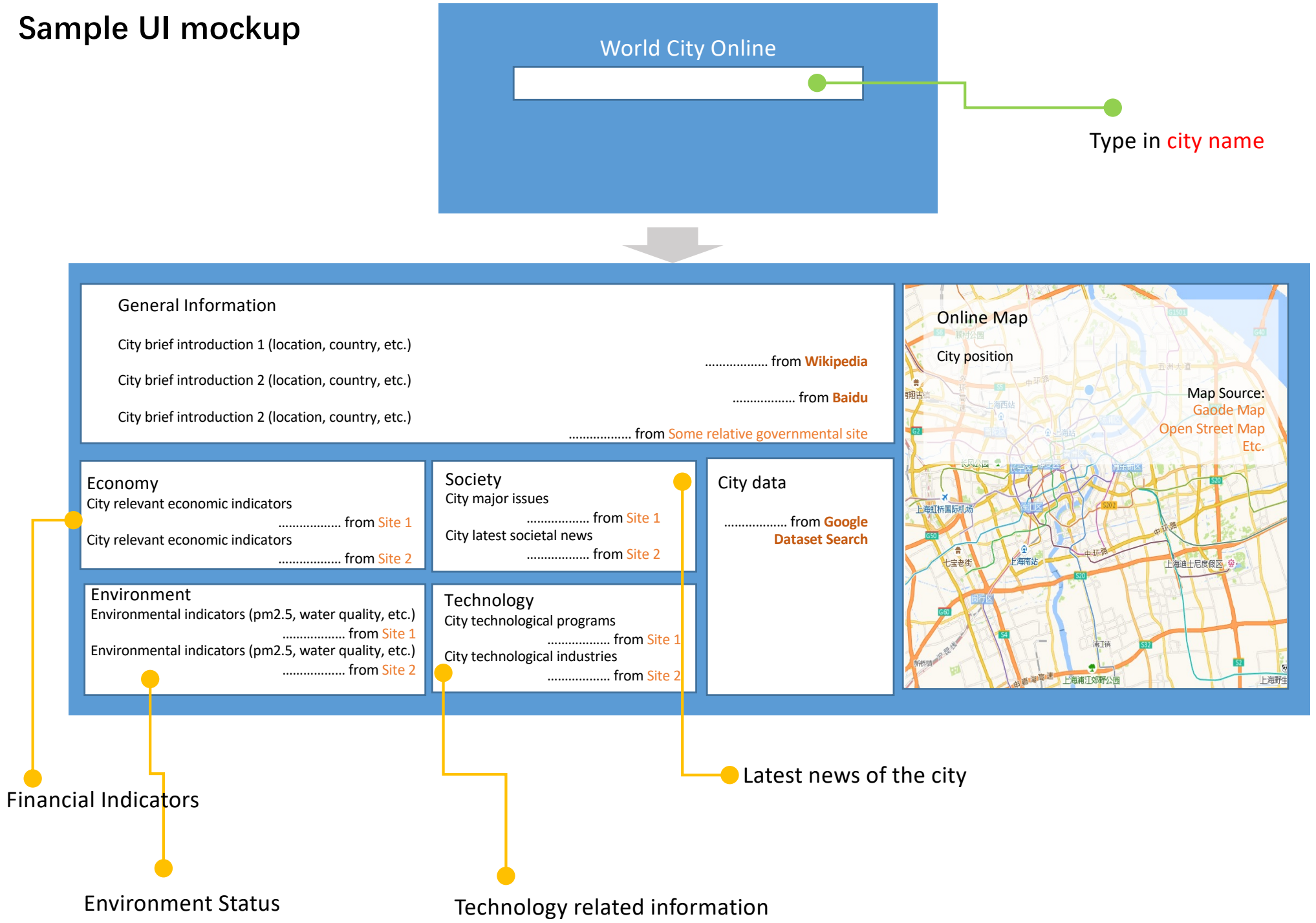
Option 1:
A City Information Query Utility for World Urban Study

- Type in one city name and get its comprehensive information on several aspects.
- Target aspects of information are listed in the UI mockup (*see next page*): General information, economy, environment, society, technology, dataset, and online map.
- Information sources are not fixed. Besides Wikipedia, Baidu, Gaode Map, Google Dataset Search, and APIs in the table provided, you can also add websites of your own based on introductions and hints in the mockup.
- Besides aspects in the mockup, you can also add other aspects if you are interested.

Sample UI mockup



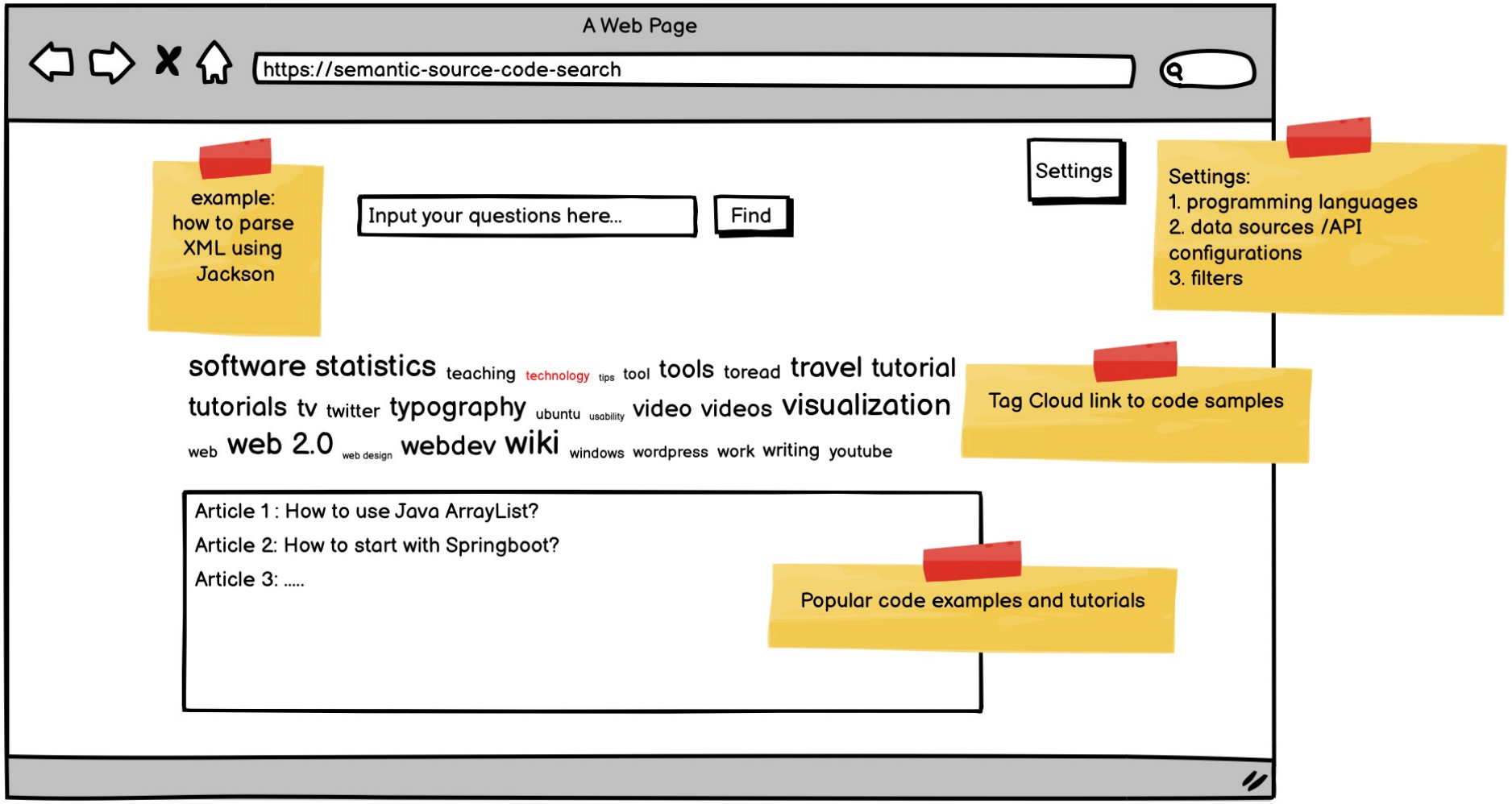
Sample Data Providers

General	Site	Social	Site	Financial	Site	Government	Site	Statistics	Site	Transportation	Site	Environment	Site
Wikipedia	https://www.wikipedia.org/	Twitter	https://developer.twitter.com/en/docs/tweets/data-dictionary/overview/geo-objects.html	Paypal	https://developer.paypal.com/	Google Public Data	https://www.google.com/publicdata/directory	U.S. Census Bureau Population Estimates and Projections	https://api.census.gov/data/2014/pep/projpop	Vehicle Smart	https://www.getvehiclesmart.com/vehicle-smart-api.html	中国空气质量在线监测分析平台	https://www.aqistudy.cn/
百度百科	https://baike.baidu.com/	Facebook	https://developers.facebook.com/docs/marketing-apis	Thomson Reuters Open Calais	http://www.opencalais.com/opencalais-api/	Consumer Financial Protection Bureau HMDA	https://www.consumerfinance.gov/data-research/hmda/api	U.S. Census Bureau Language Statistics	https://www.census.gov/data/developers/data-sets/language-stats.html	Department of For-Hire Vehicles	https://dctcdata.portal.azure-api.net/		
Google Dataset Search	https://toolbox.google.com/datasetsearch	SiteSummary	https://www.fourtonfish.com/sitesummary/	CrunchBase	https://data.crunchbase.com/docs	Nat Code Austria	http://www.natcode.at/api/reg.asmx?op=CheckAustria	U.S. Census Bureau Economy	https://www.census.gov/data/developers/data-sets/economic-census.html	12306铁路	https://kyfw.12306.cn/otn/leftTicketPrice/init		
		新浪微博	http://open.weibo.com/	Stripe	https://stripe.com/docs/api#authentication			U.S. Census Bureau Geocoding Services	https://www.census.gov/data/developers/data-sets/Geocoding-services.html	中国航信	http://adapis.travelsky.com/adapis/UserAction.do?action=login		
				CoinDesk	https://www.coindesk.com/api/			U.S. Census Bureau American Community Survey	https://www.census.gov/data/developers/data-sets/acs-1year.html				
				New York Times Campaign Finance	http://developer.nytimes.com/								

Option 2:
A “Toy” Semantic Code Search Tool

- The user inputs a natural language based statement on the start page, and then the system finds useful source code examples and corresponding online materials to help the user learn programming.
- The system allows users to configure their preferred programming language.
- Please **DO NOT** try to develop a real semantic source code search engine due to time limitations. The real challenges are beyond the scope of your current skillsets.
- Please try to have your system understand not only the keywords in the inputs of the users but also the semantic meanings and context of the inputs. Again, this is already beyond your current skillsets and the scope of this course. Please try to do that by using some existing APIs instead of designing and implementing the learning models by yourself.
- This is just a “toy” application, please feel free to use any available web APIs to enhance the functionalities.

Mockups – Start Page



Mockups – Result Page