

## SIMM 170A Exhibit A: Strong Requirement Samples

ID	Weak Requirement	Strong Requirement
<b>001</b>	<p>“System must have a robust scheduling tool to maximize school testing capacity.”</p> <ol style="list-style-type: none"> <li>1. “<i>Robust</i>” is subjective to the reader’s interpretation of the word unless “robust” is defined in the Glossary of terms with a measurable set of criteria for one to determine whether “robust” has been achieved.</li> <li>2. “Maximize school testing capacity” is not measurable as one can assume that school capacity will vary widely.</li> <li>3. Who is doing the scheduling?</li> </ol>	<p>“Schedule varying capacities of school testing. Design the solution to schedule 5,000 students in one transaction.”</p>
<b>002</b>	<p>“System must feature the ability to search system for users by assigned identifier.”</p> <ol style="list-style-type: none"> <li>1. Only providing the “ability to” may require additional code not included in the existing contract.</li> </ol>	<p>“Assign unique identification to users. Design the solution to search for users by assigned unique identification.”</p>
<b>003</b>	<p>“System must feature the ability for administrative users to add, modify, or delete school test coordinator accounts and information.”</p> <ol style="list-style-type: none"> <li>1. Providing the “ability to” may require additional code not included in the existing contract.</li> <li>2. Using the word “or” may get you “add” but not “modify” and “delete”.</li> </ol>	<p>“Design the solution to permit Administrators to add, modify, and delete school test coordinators and their corresponding user information.”</p>
<b>004</b>	<p>“System must allow administrative users to administer a practice test to students. The practice test must contain all the functionalities, accommodations and tools (e.g. calculator, spell check, graphing tools, visually based dictionary, dictionary, thesaurus, text pop out, measurement tools, electronic annotation, formula charts, and sketch pads) and range of items (e.g. TEIs) that will be available during the Summative and Interim tests.</p> <ol style="list-style-type: none"> <li>1. This requirement contains too many prerequisite requirements.</li> <li>2. This requirement contains disjointed requirements.</li> <li>3. It is too long and not scorable; break them into 4 scorable requirements.</li> </ol>	<p>“Administrative users must be able to administer practice test(s) to students.</p> <p>Practice tests, Summative and Interim tests must contain the same functionality, accommodations, tools, and range of items.</p> <p>Functionalities, accommodations and tools include calculator, spell check, graphing tools, visually based dictionary, dictionary, thesaurus, text pop out, measurement tools, electronic annotation, formula charts, and sketch pads.</p> <p>Range of items include TEI.....”</p>

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<b>005</b>	<p>“The Proposed Solution must determine whether a payment is valid (for example, must be U.S. currency).”</p> <ol style="list-style-type: none"> <li>The requirement is not clearly stated.</li> </ol>	<p>“Validate payment is in U.S. currency. Design the solution to detect currency and limit currency to U.S. bills and coins.”</p>
<b>006</b>	<p>“The Proposed Solution must be able to return payments to the sender when they are invalid or cannot be associated to a taxpayer or other entity.”</p> <ol style="list-style-type: none"> <li>This requirement is vague and unclear.</li> <li>Missing parts / assumptions.</li> </ol>	<p>“Validate taxpaying entity. Design solution to compare taxpayer identity to taxpayer of record. Design solution to use existing Taxpayer of Record component. Return payment to taxpaying entity. Automate payment return notice and detect invalid taxpaying entity(s).”</p>
<b>007</b>	<p>“The Proposed Solution must compare the address on a payment or payment information to the address of record to determine if the address of record should be updated.”</p> <ol style="list-style-type: none"> <li>The requirement is unclear. It requires the bidder to assume.</li> <li>Solicitation practices omit obligation to state assumptions and their association/relation.</li> </ol>	<p>“Validate payment address information. Design the solution to compare payment address to the address of record. Design the solution to use existing Address Of Record component.”</p>
<b>008</b>	<p>“The Proposed Solution must provide a case management component to document and resolve return processing exceptions, payment processing exceptions, potential fraud cases and Business Entity claim tracking.”</p> <ol style="list-style-type: none"> <li>This requirement is unclear. It is open to multiple interpretations.</li> <li>Don't refer to an existing business process (Business Entity) claim tracking. Unless hidden in other requirements, "claims" tracking needs/wants are unclear &amp; cannot be met without assumption(s).</li> </ol>	<p>“Control payment processing exceptions. Design the solution to document payment processing exceptions. Design the solution to resolve payment processing exceptions.</p> <p>Control potential fraud exceptions. Design the solution to document potential fraud cases. Design the solution to resolve potential fraud cases.</p> <p>Control potential Business Entity claim tracking. Design solution to document Business Entity claims. Design solution to settle Business Entity claims.</p> <p>Track Business Entity claims. NEEDS criteria...”</p>

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<b>009</b>	<p>“The Proposed Solution shall provide a user interface to enable authorized data custodians and stewards to perform data quality related tasks and error correction (e.g., providing values for incomplete data, resolving duplicate records, specifying custom rules for merging records).”</p> <ol style="list-style-type: none"> <li>1. This requirement is ambiguous – enable or provide UI?</li> <li>2. Unclear – Ok to allow duplicate or incomplete information? Why?</li> <li>3. Quality Assurance issue during solicitation &amp; money issue(s) during construction</li> </ol>	<p>“Provide error correction user interface. Limit access to authorized users. Design the solution for error correction / corrections.”</p> <p>Data Custodians and Stewards and error correction should be defined.</p>
<b>010</b>	<p>“The solution response time for retrieving a specified set of archived information must be within an acceptable and established period of time, as described in the Performance and Capacity Measurement Plan (TM 120).”</p> <ol style="list-style-type: none"> <li>1. Dependent upon future document to be drafted after contract award. High probability intent difficult/impossible to coordinate consistently or with reasonable effort.</li> <li>2. RECOMMEND: omit such requirements unless/until performance ARCT can be stated.</li> <li>3. What is acceptable and established?</li> <li>4. How will the project verify this requirement?</li> </ol>	<p>“Retrieve archived Case classified as “Complex”. Limit retrieval time to a 120 second maximum.”</p> <p>Complex is defined and a User’s specification exists.</p>
<b>011</b>	<p>“The solution must support a minimum of 10,000 concurrently logged-in users.”</p> <ol style="list-style-type: none"> <li>1. Improve clarity/consistency.</li> <li>2. Possible future change and unnecessary overhead trying to communicate intentions.</li> <li>3. 10,000 users logged on doing what? Will the system perform differently?</li> </ol>	<p>“Sustain concurrent user loads. Design the solution for a minimum load of 10,000 concurrent users. Describe loads to be supported. State the maximum concurrent load when in operation.”</p>
<b>012</b>	<p>“The System shall include the capability of transferring custody of an asset.”</p> <ol style="list-style-type: none"> <li>1. Avoid asking for “capabilities.”</li> </ol>	<p>“Design the solution for transferring the custody of an asset.”</p> <p>Custody and asset should be defined.</p>

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<b>013</b>	<p>“The System shall accept various methods of invoice submission (e.g., electronic, scanned, paper, fax) from vendors with clearly identified "date stamps" and link those documents to the accounts payable posting.</p> <ol style="list-style-type: none"> <li>1. “Various methods” is not clear or measurable.</li> <li>2. This requirement asks for 3 different functions.</li> </ol>	<p>“Accept invoice submission(s) from vendors. Design the solution to accept online and offline invoice submissions. Accept invoice submissions with clear date stamps. Design the solution to link accepted invoice submissions to the accounts payable posting.”</p> <p>UI requirements should be defined to ensure submissions are delivered the way you want.</p>
<b>014</b>	<p>“The System shall allocate sufficient audit record storage capacity to configure auditing to reduce the likelihood of such capacity being exceeded.”</p> <ol style="list-style-type: none"> <li>1. "Sufficient" is not specific or measurable.</li> <li>2. It is unclear what this requirement is intended to mean</li> </ol>	<p>“Allocate audit record storage to configure auditing. Design to scale auditing functionality capacity on-demand.”</p> <p>Specify necessary capacity (min/max).</p>
<b>015</b>	<p>“The System shall include a procurement system that meets the needs of the Department of State Projects, the State Procurements Office, and other State departments.”</p> <ol style="list-style-type: none"> <li>1. "Needs" are subjective. The sum of the requirements, feedback, and issues will determine if this requirement is met.</li> <li>2. Aka: The system shall include a system that accomplishes what everyone wants</li> </ol>	<p>This requirement is simply a bad requirement and cannot be re-written. The needs of the stakeholders are captured in the sum of functional and non-functional requirements.</p>

# Exhibit A: Strong Requirement Samples

Other examples of stronger Mid-Level Solution requirements:

*“The commission needs an on-line submission form that our clients can request and pay for multiple licenses.”*

*“The department needs to be able to keep track of how many engineers are available to assess levy conditions, during a category 4 storm, in real-time.”*

*“The agency would like to have its health inspection reports published online – with sensitive information omitted.”*

Applying techniques described in the IT Solicitation and Requirements Guideline will improve these mid-level requirements, by making minor adjustments –

*“The commission needs an on-line submission form that our clients can request and pay for multiple licenses.”*

Becomes, *“The Commission needs a way for clients to request and pay for licensing.”*

*“The Department needs to be able to keep track of how many engineers are available to assess levy conditions, during a category 4 storm, in real-time.”*

Becomes, *“The Commission needs to know how many engineers are available at any given time.”*

*“The Agency needs to have its health inspection reports on the web – with sensitive information omitted.”*

Becomes, *“The Agency needs online health inspection reports.”*

Argument could be made that the words *“sensitive information omitted”* stay in the Mid-Level Solution requirement. Many factors exist which could determine whether data is treated as “sensitive”. However, at this point, it may not be vetted that there actually is “sensitive information” contained in the data. Note that this may be a requirement within the security category but in reality, the project isn’t at the point yet to make this determination.