

G and D Requirements Overview

What is your role at your company? *

Business Architect

How often does your role involve working with Software Requirements? *

☐ Always

☒ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

In scope reqs

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Out of scope req

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

From my perspective as practitioner, this in all honesty would be a non issue for me. It's up to a business analyst / project manager to work on this during the project.

Things might be in scope but not logged, this is always the case (but for instance will also come up with bugs etc) you have to deal with this by using best practices like limiting the tasks in a single action.

I also don't think the 10-200 times to rework is representative. We recently had to rework a core functionality of an app to deal with high volumes. I would reflect/ argue that this still took less time than if we had not built the initial version to gather the actual usecases.

"A telephone number is a sequence of digits assigned to a landline telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other public and private networks.

A telephone number serves as an address for switching telephone calls using a system of destination code routing." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, a telephone number uniquely identifies a device, the target device, to which one might wish to send a text (SMS) message.

"Short Message/Messaging Service, commonly abbreviated as SMS, is a text messaging service component of most telephone, Internet and mobile device systems. It uses standardized communication protocols that let mobile devices exchange short text messages. An intermediary service can facilitate a text-to-voice conversion to be sent to landlines....

The service allows users to send and receive messages of up to 160 characters (when entirely alpha-numeric) to and from GSM mobiles.

Although most SMS messages are sent from one mobile phone to another, support for the service has expanded to include other mobile technologies, such as CDMA networks and Digital AMPS." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, SMS allows sending a text message of up to 160 characters to a target device via the target device's uniquely identifying telephone number.

Scope, consisting of Requirements R1, R2, and R3:

R1. A cellphone is able to send a text message of up to 160 characters to a target device identified by a telephone number.

R2. A cellphone is able to receive a text message of up to 160 characters from a source device identified by a telephone number.

R3. A cellphone that has sent a text message to a target device receives an acknowledgment when the sent text message is delivered to the target device.

For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

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.....

If the target device is shut down, then delay the transmission until the device is back on.

☒ G Requirement.

☐ D Requirement.

A text message can be an image.

☒ G Requirement.

☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

☐ G Requirement.

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A text message can be a file of any format.

☒ G Requirement.

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If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
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If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

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If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
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If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☐ G Requirement.
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The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

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Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

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A text message can be sent to a set of telephone numbers.

- ☒ G Requirement.
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Software Engineer

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Inherent

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Extra

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Using single letters 'G' and 'D' is somewhat unintuitive for remembering which type is which

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- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
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If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

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Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

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An arriving text message shows the text message's sender's phone number and arrival date and time.

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Google Forms

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Ph.D. Student

How often does your role involve working with Software Requirements? *

☒ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

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Variation/Variant, Feature Details

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Software Engineer

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essential requirement

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bonus requirement

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

I think it's better to emphasize that D is the initial requirement, while G is the additional requirement come up with during the development.

"A telephone number is a sequence of digits assigned to a landline telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other public and private networks.

A telephone number serves as an address for switching telephone calls using a system of destination code routing." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, a telephone number uniquely identifies a device, the target device, to which one might wish to send a text (SMS) message.

"Short Message/Messaging Service, commonly abbreviated as SMS, is a text messaging service component of most telephone, Internet and mobile device systems. It uses standardized communication protocols that let mobile devices exchange short text messages. An intermediary service can facilitate a text-to-voice conversion to be sent to landlines....

The service allows users to send and receive messages of up to 160 characters (when entirely alpha-numeric) to and from GSM mobiles.

Although most SMS messages are sent from one mobile phone to another, support for the service has expanded to include other mobile technologies, such as CDMA networks and Digital AMPS." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, SMS allows sending a text message of up to 160 characters to a target device via the target device's uniquely identifying telephone number.

Scope, consisting of Requirements R1, R2, and R3:

R1. A cellphone is able to send a text message of up to 160 characters to a target device identified by a telephone number.

R2. A cellphone is able to receive a text message of up to 160 characters from a source device identified by a telephone number.

R3. A cellphone that has sent a text message to a target device receives an acknowledgment when the sent text message is delivered to the target device.

For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

Note: *If you had any concerns assumptions when you answered the rest of the questions, please share them with us here.*

R1 and R2 are D, as it is basic and required by the original requirement. R3 is G, as it is not essential, but may improve the users' experience, this requirement may be discovered during the development.

If the target device is shut down, then delay the transmission until the device is back on.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
- ☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☒ G Requirement.
- ☐ D Requirement.

A text message can be a file of any format.

- ☒ G Requirement.
- ☐ D Requirement.

If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☒ G Requirement.
- ☐ D Requirement.

The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☐ G Requirement.
- ☒ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

☒ G Requirement.

☐ D Requirement.

A text message can be sent to a set of telephone numbers.

☒ G Requirement.

☐ D Requirement.

Lastly,

Make a completely voluntary decision of whether to submit your answers. If you consent, then submit your answers, and we will receive them. If you do not consent, then do not submit your answers, and we will receive no answers from you. It is that simple! In either case, we do not know who you are, unless you tell us in some free-text answer. Your having filled out the questionnaire and having submitted your answers is taken as proof of your having consented to our knowing and publishing whatever is in your answers, including the free-text answers.

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Marcia Lucena <marciaj@dimap.ufrn.br>

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G and D Requirements Overview

What is your role at your company? *

Researcher

How often does your role involve working with Software Requirements? *

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☒ Never
- ☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Corner Cases, Bug Fix

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **G** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
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Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

I don't know. Only "Feature" comes to my mind which is already written. Maybe in some cases it can be a "Domain Expansion" when the feature is for a new domain.

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

The naming (D and G) is a little unintuitive for me and hard to memorize.

"A telephone number is a sequence of digits assigned to a landline telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other public and private networks.

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Thus, SMS allows sending a text message of up to 160 characters to a target device via the target device's uniquely identifying telephone number.

Scope, consisting of Requirements R1, R2, and R3:

R1. A cellphone is able to send a text message of up to 160 characters to a target device identified by a telephone number.

R2. A cellphone is able to receive a text message of up to 160 characters from a source device identified by a telephone number.

R3. A cellphone that has sent a text message to a target device receives an acknowledgment when the sent text message is delivered to the target device.

For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

Note: *If you had any concerns assumptions when you answered the rest of the questions, please share them with us here.*

.....

If the target device is shut down, then delay the transmission until the device is back on.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
- ☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be a file of any format.

- ☒ G Requirement.
- ☐ D Requirement.

If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

☒ G Requirement.

☐ D Requirement.

A text message can be sent to a set of telephone numbers.

☒ G Requirement.

☐ D Requirement.

Lastly,

Make a completely voluntary decision of whether to submit your answers. If you consent, then submit your answers, and we will receive them. If you do not consent, then do not submit your answers, and we will receive no answers from you. It is that simple! In either case, we do not know who you are, unless you tell us in some free-text answer. Your having filled out the questionnaire and having submitted your answers is taken as proof of your having consented to our knowing and publishing whatever is in your answers, including the free-text answers.

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Google Forms

G and D Requirements Overview

What is your role at your company? *

Masters Student/TA

How often does your role involve working with Software Requirements? *

- ☐ Always
- ☐ Often
- ☒ Sometimes
- ☐ Rarely
- ☐ Never
- ☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Obvious at the beginning/dependent on initial scope

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **G** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Not obvious at the beginning/independent of existing scope

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

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The service allows users to send and receive messages of up to 160 characters (when entirely alpha-numeric) to and from GSM mobiles.

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For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

Note: *If you had any concerns assumptions when you answered the rest of the questions, please share them with us here.*

.....

If the target device is shut down, then delay the transmission until the device is back on.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
- ☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

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- ☒ G Requirement.
- ☐ D Requirement.

If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

- ☐ G Requirement.
- ☒ D Requirement.

Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☐ G Requirement.
- ☒ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be sent to a set of telephone numbers.

- ☐ G Requirement.
- ☒ D Requirement.

Lastly,

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G and D Requirements Overview

What is your role at your company? *

Student

How often does your role involve working with Software Requirements? *

☐ Always

☒ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Core features

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **G** Requirement?

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Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
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Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Bonus Features

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

I feel like there are certain features that might not fit either and could be somewhere in between. Like having a high resolution UI may not be necessary but would exponentially enhance User Experience.

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.....

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- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
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If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☐ G Requirement.
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- ☒ G Requirement.
- ☐ D Requirement.

If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

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Google Forms

G and D Requirements Overview

What is your role at your company? *

Currently, I am a Ph.D. student; but a time ago I was a software engineer.

How often does your role involve working with Software Requirements? *

☒ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
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Maintain Consistency	Add New Feature
System Req	Environment/World Req
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Enduring requirements

(S. D. P. Harker, K. D. Eason and J. E. Dobson, "The change and evolution of requirements as a challenge to the practice of software engineering," [1993] Proceedings of the IEEE International Symposium on Requirements Engineering, San Diego, CA, USA, 1993, pp. 266-272, doi: 10.1109/ISRE.1993.324847)

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **G** Requirement?

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Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Consequential requirements

(S. D. P. Harker, K. D. Eason and J. E. Dobson, "The change and evolution of requirements as a challenge to the practice of software engineering," [1993] Proceedings of the IEEE International Symposium on Requirements Engineering, San Diego, CA, USA, 1993, pp. 266-272, doi: 10.1109/ISRE.1993.324847)

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

No

"A telephone number is a sequence of digits assigned to a landline telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other public and private networks.

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Thus, SMS allows sending a text message of up to 160 characters to a target device via the target device's uniquely identifying telephone number.

Scope, consisting of Requirements R1, R2, and R3:

R1. A cellphone is able to send a text message of up to 160 characters to a target device identified by a telephone number.

R2. A cellphone is able to receive a text message of up to 160 characters from a source device identified by a telephone number.

R3. A cellphone that has sent a text message to a target device receives an acknowledgment when the sent text message is delivered to the target device.

For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

Note: *If you had any concerns assumptions when you answered the rest of the questions, please share them with us here.*

.....

If the target device is shut down, then delay the transmission until the device is back on.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
- ☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be a file of any format.

- ☒ G Requirement.
- ☐ D Requirement.

If the phone number to which a message is being sent is not associated with any device, don't transmit the message and inform the user.

- ☐ G Requirement.
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If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

- ☐ G Requirement.
- ☒ D Requirement.

Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☐ G Requirement.
- ☒ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be sent to a set of telephone numbers.

- ☒ G Requirement.
- ☐ D Requirement.

Lastly,

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Google Forms

G and D Requirements Overview

What is your role at your company? *

In the company where I have my Co-op, I was a Software Development Engineer

How often does your role involve working with Software Requirements? *

- ☐ Always
- ☐ Often
- ☒ Sometimes
- ☐ Rarely
- ☐ Never
- ☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
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fundamental requirement

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **G** Requirement?

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ongoing requirement

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

Nope, I think it is good

"A telephone number is a sequence of digits assigned to a landline telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other public and private networks.

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- ☐ G Requirement.
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A text message can be an image.

- ☒ G Requirement.
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An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

☒ G Requirement.

☐ D Requirement.

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☒ G Requirement.

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G and D Requirements Overview

What is your role at your company? *

Software Developer

How often does your role involve working with Software Requirements? *

☐ Always

☒ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
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Internal	External
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Maintain Consistency	Add New Feature
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- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
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If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

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- ☐ G Requirement.
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- ☒ G Requirement.
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- ☐ G Requirement.
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G and D Requirements Overview

What is your role at your company? *

Student

How often does your role involve working with Software Requirements? *

☐ Always

☒ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
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Update	New Release
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Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

Minor

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Major

Is there anything you would like to share with us regarding the "G and D Requirements Overview" presentation that was not mentioned above?

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- ☒ G Requirement.
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- ☒ D Requirement.

If the target device of a text message is a cellphone, use the SMS network for transmitting the text message.

- ☐ G Requirement.
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If the target device of a text message is a landline phone, use the PSTN for transmitting the text message.

- ☐ G Requirement.
- ☒ D Requirement.

If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

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- ☒ D Requirement.

The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and arrival date and time.

- ☒ G Requirement.
- ☐ D Requirement.

If both the sending cellphone and the receiving device of a text message are currently connected to the Internet, use the Internet for transmitting the text message.

- ☒ G Requirement.
- ☐ D Requirement.

An arriving text message shows the text message's sender's phone number and sending date and time.

☒ G Requirement.

☐ D Requirement.

A text message can be sent to a set of telephone numbers.

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G and D Requirements Overview

What is your role at your company? *

SWE

How often does your role involve working with Software Requirements? *

- ☐ Always
- ☐ Often
- ☒ Sometimes
- ☐ Rarely
- ☐ Never
- ☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
Use Case: Variation/Exception	Use Case: New/Independent
Internal	External
Non-E-Type	E-Type
Req Needed to Build the System Right	Req Needed to Build the Right System
Dependent/Implied/Interacting	Independent/Axiom/Orthogonal
Update	New Release
Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

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A telephone number serves as an address for switching telephone calls using a system of destination code routing." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, a telephone number uniquely identifies a device, the target device, to which one might wish to send a text (SMS) message.

"Short Message/Messaging Service, commonly abbreviated as SMS, is a text messaging service component of most telephone, Internet and mobile device systems. It uses standardized communication protocols that let mobile devices exchange short text messages. An intermediary service can facilitate a text-to-voice conversion to be sent to landlines....

The service allows users to send and receive messages of up to 160 characters (when entirely alpha-numeric) to and from GSM mobiles.

Although most SMS messages are sent from one mobile phone to another, support for the service has expanded to include other mobile technologies, such as CDMA networks and Digital AMPS." [https://en.wikipedia.org/wiki/Telephone_number]

Thus, SMS allows sending a text message of up to 160 characters to a target device via the target device's uniquely identifying telephone number.

Scope, consisting of Requirements R1, R2, and R3:

R1. A cellphone is able to send a text message of up to 160 characters to a target device identified by a telephone number.

R2. A cellphone is able to receive a text message of up to 160 characters from a source device identified by a telephone number.

R3. A cellphone that has sent a text message to a target device receives an acknowledgment when the sent text message is delivered to the target device.

For the rest of this Questionnaire, Please identify each requirement whether it is a G or D with reference to the scope, consisting of Requirements R1, R2, and R3.

Note: *If you had any concerns assumptions when you answered the rest of the questions, please share them with us here.*

.....

If the target device is shut down, then delay the transmission until the device is back on.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be an image.

- ☒ G Requirement.
- ☐ D Requirement.

If the target device is not capable of receiving text messages, don't transmit the message and inform the user.

- ☐ G Requirement.
- ☒ D Requirement.

A text message can be a file of any format.

- ☒ G Requirement.
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If the phone number to which a message is being sent is not well-formed, don't transmit the message and inform the user.

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The acknowledgement of delivery of a text message shows the text message's recipient's phone number and arrival date and time.

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Pair a cellphone being used to send and receive text messages with a computer so that the computer's message app can send and receive text messages via the cellphone, as if the computer were the cellphone; the text messages are stored in the cellphone.

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An arriving text message shows the text message's sender's phone number and arrival date and time.

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G and D Requirements Overview

What is your role at your company? *

Requirements Analyst

How often does your role involve working with Software Requirements? *

☒ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

☐ Other:

Alternative Names for D and G Requirements: What other categories/names would you add as alternatives to **D** Requirement?

D Requirement	G Requirement
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Internal	External
Non-E-Type	E-Type
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Revision ($Vx.Rn \rightarrow Vx.Rn+1$)	New Version ($Vx.Rn \rightarrow Vx+1.R1$)
Maintain Consistency	Add New Feature
System Req	Environment/World Req
White Box Req	Black Box Req

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Reqs Analyst

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