

Music improvisation

Music Improvisation Tool



*Example analysis
'Something'
by George Harrison, 1969*

Example inspired from:
"Something" by George Harrison, 1969

Piano

1 F Eb G7 2 C 3 Cmaj7

Pno.

4 C7 5 F 6 D7

Pno.

7 G E7 E7 8 Am Ammaj7 9 Am7 D7 D7

Pno.

10 F Eb G7 11 A 12 F Eb G7 13 C

Music Improvisation Tool

See the demo-version of 'Music Improvisation Tool' (MIT) on: 'www.musicimprotool.dk', and find examples and further information on: 'www.musicimprotool.dk/xmlpl'.

The MIT tool answers the question: 'How to improvise over a chord played in a certain tonality' in the textual form: 1) The function of the chord in the actual tonality; 2) which scales may be used as the basis for covering/hitting the tones in the chord and, to the widest extent, hitting the tones in the tonality played.

The MIT covers all genres of western music where improvisation is in practise.

The tool includes 60 chords, the two western tonalities, the 12 western fundamental notes and 25 different modal scales, meaning more than 17.000 combinations of chords and tonalities.

Description

Find a brief description and examples on how to use this APP here, and further examples and a list of chords and tonalities on the web-page: www.musicimprotool.dk/xmlpl.

Background

This APP is based on the theories and methods presented in the book 'GuitarGuide' from 2008 and 2011 by Soren Prom. With the APP one can play and show all included tonalities, chords and modal scales and determine how to improvise over almost all western combinations of tonalities and chords. The APP is of benefit to all improvising musicians - not only guitarists.

The APP's terminology and notation is taken from the 'Oxford - Grove Online Music' and US Wikipedia.

Standard notation

With the APP's more than 17.000 possible combinations of tonality and chords, it is not suitable to write out correct codes (i.e. # and b) for all combinations.

The App uses the following standard notation: Chords fundamental notes: C-Db-D-Eb-E-F-Gb-G-Ab-A-Bb-B, meaning that a Dbm7b5 chord corresponds enharmonically to a C#m7b5.

Tonality's tonics in both major and minor mode are: C-Db-D-Eb-E-F-Gb-G-Ab-A-Bb-B (not C-C#-D-Eb-E-F-F#-G-G#-A-Bb-B which is norm for minor mode). So you may see an ex. of a score referring the tone or tonality F# (F sharp), while the written proposal refers the enharmonically equal Gb (G flat). Do not confuse.

The APP do not include a tonal display of the 'maj7b9' chord.

How to use the APP

The APP is arranged in two sections:

1. Determine, display and play improvisation scales - pull-down menus and buttons, and
2. Play back of the modal scales presented in the APP.

In the area for playing the improvisation scale there are three general buttons: A) Button to 'Reset all' selections made in the pull-down menus, and B) the button 'Show proposal', which displays the result from the menu-selections in plain text in a separate window. The result - one or two - proposed improvisation scales - will play and display using the button 'Play impro scale'. C) The 'Help' button displays the MIT helptext.

In the helptext find the reference to the example web-page.

Find and play improvisation scale

Select: 1. tonal gender (major or minor), 2. tonality's tonic, 3. the chord to be improvised over and 4. the chord's fundamental tone.

Display the result and play the selections and the improvisation scale by activating the buttons as described above.

Play the APP's modal scales

See about modal scales on above mentioned web-page. All the scales, that are played back activating the key 'Play impro scale', are in fact modal scales; they may all of course be played back each in turn exclusively.

Select a modal scale in the menu: 'Select modal scale' and select the scales tonic in the menu for selection of tonal tonic. Play the selected scale by activating the key: 'Play modal scale'.

The modal scales 'ionian' and 'aeolian' are *identical* to the 'major' and 'minor' scales respectively.

MIT example

As an example on how to use the Music Improvisation Tool, we use a slightly paraphrased version close to the worldfamous song 'Something' in our work.

'*Something*' is written by George Harrison - The Beatles, and released on their 'Abbey Road' album in 1969. The main key is C major, and the metre is 4/4 slow-rock.

As *improvisation example* we use a 'selfconstructed' paraphrase over the already existing 'improvised' guitarsolo in 'Something'.

The word improvised above is put in quotation marks, as the degree of improvisation vs. composition can be questioned. But naturally the guitarsolo shall appear as an improvisation, and is used here as such.

Score, score analysis and examples of usage

Find the score of 'Something' above, and the score and analysis of the 'improvisation' below. Key for each bar are stated in the key column, and the chord functions in the other columns. Note the keychange to A major in bar 11, and then back to C.

Codes used in the tables below

The sign: '~' used everywhere means: 'is equal to' or 'refers to' or 'the code means'.

The code: [H] ~ a chord in the harmonized scale. [D] ~ a major or dom7 chord in a dominantized scale, that is a harmonized scale containing only major or dom7 chords.

Capital roman letters ~ major chords; small roman letters ~ minor chords.

T ~ tonic chord. D ~ dominant chord. D7 ~ dominant seventh chord (dom7). DD7 ~ dominants dominant 7 chord. (D7) ~ second dominant 7 chord. S ~ subdominant. SS ~ subdominants subdominant. S7 ~ subdominant seventh. SS7 ~ subdominants subdominant seventh. Tp ~ tonic parallel. Sp ~ subdominant parallel. Dp ~ dominant parallel chord.

Further abbreviations: '3ts' means 'tritone substitution'; the abbreviation 'alt.' and the '>' mark means 'altered'. The code 'D7>' indicates an altered dom7 chord.

The code V7 (where the 'roman' V = 5) indicates a dom7 chord on step 5 (V).

Analysis: Define tonality, chord and chord function

Use the MIT tool to determine the function of the chords for each of the bar-groups on the basis of the actual keys and chords played in the bars. The MIT results appear in the table below.

Example inspired and paraphrased from:
The guitar solo in:
"Something" by George Harrison, 1969

Piano

1 F Eb G7 2 C 3 Cmaj7

Detailed description: This system contains the first three measures of the piano accompaniment. The top staff is in treble clef with a 4/4 time signature. Measure 1 has a whole rest followed by a quarter note G4, quarter note A4, quarter note Bb4, and quarter note Bb4. Measure 2 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. Measure 3 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. The bottom staff is in bass clef. Measure 1 has a whole rest. Measure 2 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 3 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2.

Pno.

4 C7 5 F 6 D7

Detailed description: This system contains measures 4 through 6. The top staff continues the melodic line. Measure 4 has a quarter note G4, quarter note A4, quarter note Bb4, and quarter note Bb4. Measure 5 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. Measure 6 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. The bottom staff continues the bass line. Measure 4 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 5 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 6 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2.

Pno.

7 G G E7 E7 8 Am Am Ammaj7 9 Am7Am7 D7 D7

Detailed description: This system contains measures 7 through 9. The top staff continues the melodic line. Measure 7 has a quarter note G4, quarter note A4, quarter note Bb4, and quarter note Bb4. Measure 8 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. Measure 9 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. The bottom staff continues the bass line. Measure 7 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 8 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 9 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2.

A C# E F

Pno.

10 F Eb G7 11 A 12 F Eb G7 13 C

Detailed description: This system contains measures 10 through 13. The top staff continues the melodic line. Measure 10 has a quarter note G4, quarter note A4, quarter note Bb4, and quarter note Bb4. Measure 11 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. Measure 12 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. Measure 13 has a quarter note G4, quarter note A4, quarter note Bb4, and a half note G4. The bottom staff continues the bass line. Measure 10 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 11 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 12 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2. Measure 13 has a quarter note G2, quarter note Bb2, quarter note G2, and quarter note Bb2.

From score			Results from Music Improvisation Tool		
Bar #	Key	Chord	Chord spec. & code	Step in scale note 1)	Note to chord
1	C major	F	Subdominant S	IV	S to C. [H]
	-	Eb (Eb-G-Bb)	Eb is not inherent in C major scale, but gives a nice transitional timbre between F and G7	bIII Low(III)	Transitional chord. Tone Bb in chord Eb forms a nice chromatic progress from tone A in F to tone B in G7 and on to C
	-	G7	Dominant seventh D7	V (V7)	D7 to C. [H]
2	-	C	Tonic T	I	[H]
3	-	Cmaj7	Tonic T	I	[H]. Tetrad w. large seventh
4	-	C7	Second dominant (D7)	I	D7 to F in # 5. [D] to F
5	-	F	S	IV	[H]
6	-	D7	Dominants dominant 7 DD7	II	D7 to G in bar 7. [D]
7	-	G	Dominant D	V	[H]
	-	E7	Second dominant (D7)	III	Second dominant to C. Major dominant to Am in bar 8. [D]
8	-	Am	Tp	vi	Tonic parallel. [H]
	-	Ammaj7	Tp	vi	Transitional chord betw. Am and Am7. Tetrad with large seventh (G#)
9	-	Am7	Tp	vi	Tonic parallel. Tetrad. [H]
	-	D7	Dominants dom7 DD7	II	D7 to G; but instead next chord is F (S) in bar 10. [D]
10	-	See bar 1			
11	A major	A	Tonic T	I	Tonal change - C to A. [H]
12	C major	See bar1			
13	-	C	Tonic T		[H]

Note 1). The heading 'Step in scale' refers to the step in the **key's** scale on which the *chords fundamental note* resides. See further about the usage of the word 'step' in note 2) below.

Analysis: Select improvisation scale

Use the MIT tool to determine the improvisation scale for each of the bar-groups on the basis of the actual keys and chords played in the bars. The MIT results appear in the table below.

Score		MusicImproTool results				
Bar #	Chord	Improvisation scale				
		Major/minor scale			Modal scale	More info
		Tonic	Gender/tonality	Step ²⁾	Fundamental and mode	
1	F	C	major	4	F lydian	
	Eb	Eb	major	1	Eb ionian	step 1 in Eb maj
	G7	C	major	5	G mixolydian	

Score		MusicImproTool results				
Bar #	Chord	Improvisation scale				
		Major/minor scale			Modal scale	More info
		Tonic	Gender/tonality	Step ²⁾	Fundamental and mode	
2	C	C	major	1	C ionian	
3	Cmaj7	C	major	1	C ionian	
4	C7	F	major	5	C mixolydian	step 5 in F maj
5	F	C	major	4	F ionian	
6	D7	G	major	5	D mixolydian	step 5 in G major scale
7	G	C	major	5	G mixolydian	
	E7	A	harmonic minor	5	E phrygian dominant	step 5 in A harmonic minor
8	Am	C	major	6	A aeolian	A-C-E-A
	Ammaj7	A	melodic minor	1	A melodic minor	Tetrad: A-C-E-G# The G# in Ammaj7 constitutes a transition between the A in Am and G in Am7
9	Am7	C	major	6	A aeolian	A-C-E-G
	D7	G	major	4	D mixolydian	
10	See bar #1					
11	A	A	major	3	A ionian	
12	See bar #1					
13	C	C	major	1	C ionian	

Note 2). Step. The numbers 1 to 7 in the column 'Step' refers to the step in the proposed **improvisation scale** on which the chords fundamental note resides. Example: bar 1, chord G7, where G is on step 5 in the C major improvisation scale.

Here 'Tonality' also may refer to the scales: melodic minor, harmonic minor, the wholetone scale and the octatonic scale.

Score analysis examples

Let's take a closer look at the improvisation-notes in the different bars. The goal of any improvisation is, that the played notes hit the notes in the different chords, while they, at the same time, 'supports' the notes in the actual tonality, i.e. gives the listener a feeling of listening to music in the actual tonality, in 'Something' mostly C major.

Hereunder find a systematic summarization of the textual advices given by pressing the button: 'Show proposal' for each of the selections.

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Example 1. bar #2:

Many of the notes - except D - in bar #2 hits the tones in chord C, while all notes inhere in the C major scale.

The results from MIT are listed below. The improvisation will be based on notes from the C major scale, with a possible start on step 1: C, or use the C ionian modal scale, that is equal to the C major scale from step 1: C.



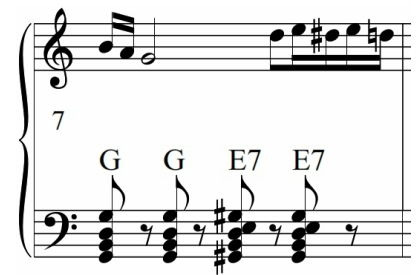
Bar #	Key	Chord	Chord code	Step in scale	Note
2	C	C	Tonic T	I	[H]

Bar #	Chord	Major/minor scale and step			Modal scale	More info
2	C	C	major	1	C ionian	

Example 2. bar #7:

All notes in bar #7, except D#, hits the tones in the C major scale; all notes in chord G are hit, but only the tones E, B, D in the E7 chord (E-G#-B-D), not the tone G#.

The tone D# in the improvisation indicates a chromatic figure around the tones D, D# and E - one of the few chromatic sequences in the whole original improvisation.



Bar #	Key	Chord	Chord code	Step in scale	Note
bar 7	C key	G chord	Dominant D	V step	[H]
		E7	Second dominant (D7)	III	Second dominant to C. Major dominant to Am in bar 8. [D]

Bar #	Chord	Major/minor scale and step			Modal scale	More info
7	G chord	C	major scale	5	G mixolydian mode	
	E7	A fundamental	harmonic minor	5	E phrygian dominant	step 5 in A harmonic minor

Example 3. bar #11:

During the improvisation in 'Something' there is a very few half-tone or chromatic (colouring) progressions between scale-inherent tones.

Depending on the style of the music played it may be desirable to add chromatic, colour-impressing progressions between scale-inherent notes - not to forget to use larger intervals than 1 step between notes. And it is of course not necessary to begin an improvisation on the tonic or fundamental note. Any other will do.



Bar #	Key	Chord	Chord code	Step in scale	Note
11	A key	A chord	Tonic T	I step	Tonal change - C to A. [H]

Bar #	Chord	Major/minor scale and step			Modal scale	More info
11	A	A fund.	major	3	A ionian mode	

In bar #11 we have therefore added a chromatic figure beginning on the A major's tonic as well as the A major chord's fundamental note A, hitting the third C# and the fifth E, finally ending on F in bar #12.

The play buttons

As stated above MIT will play the selections made and the proposed improvisation scale by activating the play buttons. In addition to the playing a score showing the played example will be exhibited. Below: 'Impro.' mean: 'Improvisation'.

Example 1. bar #2:

Tonality: C major key. Harmony: C major chord.

Tonality: C major	Chord: C maj	Proposed impro. scale: C ionian
		

The tonality is shown as a C triad chord, as this sound clearly represents the selected tonality. If one instead wants to hear the 7 tones in the major or minor scales, then select the equivalent modal scale. The C major scale (tonality) is equivalent to the C ionian modal scale, and the C minor scale (tonality) is equivalent to the C aeolian modal scale.

Example 2. bar #7:

Tonality: C major key. Harmonies: G major and E7 (E-G#-B-D) chords.

Tonality: C major	Chord: G maj	Prop. impro. scale: G mixolydian
		
Tonality: C major	Chord: E7	Proposed improvisation scale:
		
		E phrygian dominant

C major scale instead of C major chord:



Example 3. bar #11:

Tonality: A major key. Harmony: A major A-C#-E) chord.

Tonality: A major	Chord: A maj	Proposed impro. scale: A ionian
		

The tonality is shown as an A triad chord, as this sound clearly represents the selected tonality. If one instead wants to hear the 7 tones in the major or minor scales, then select the equivalent modal scale. The A major scale (tonality) is equivalent to the A ionian modal scale, and the A minor scale (tonality) is equivalent to the A aeolian modal scale - that is parallel to the C major scale.