

Figure 1

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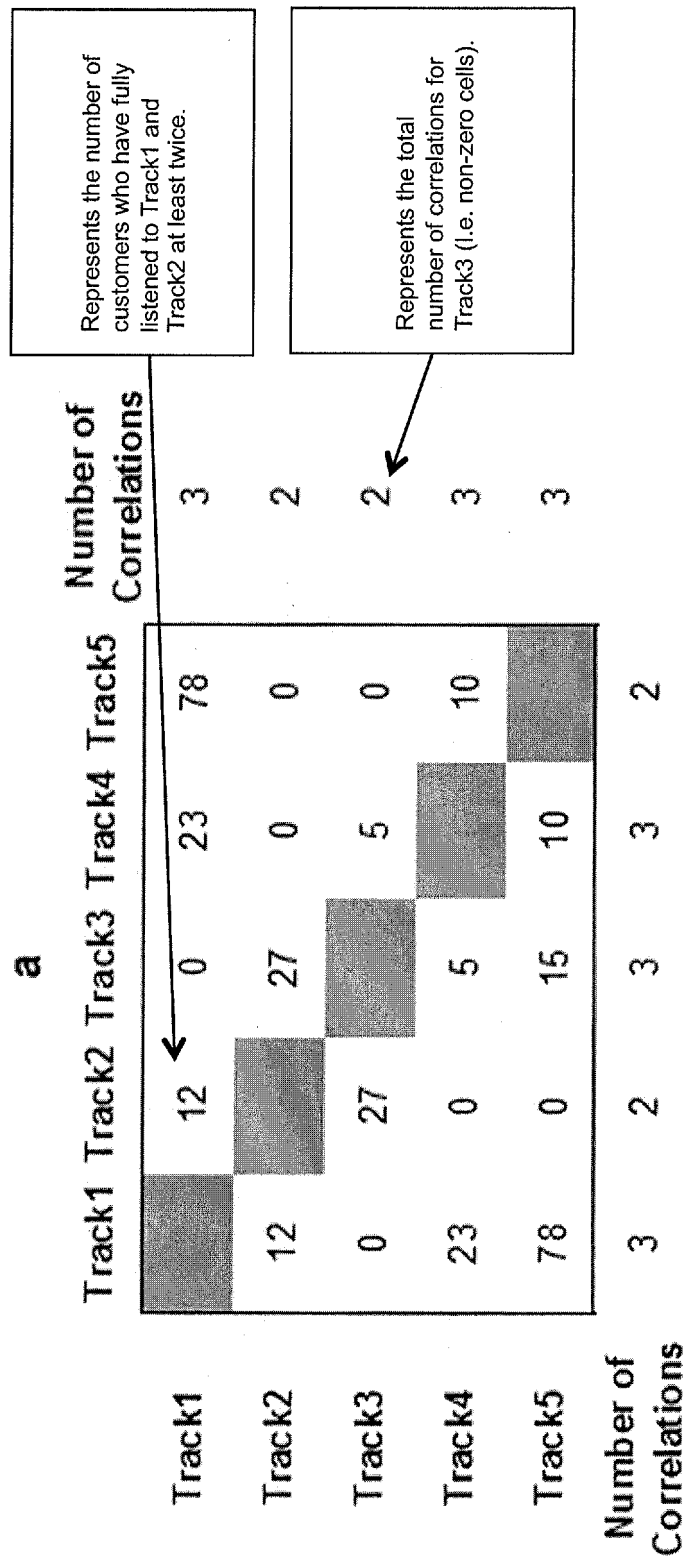


Figure 2

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a

	Track1	Track2	Track3	Track4	Track5	Weighting Sum
Track1		34.00	0.00	13.15	44.61	91.77
Track2	34.00		76.50	0.00	0.00	110.50
Track3	0.00	76.50		2.86	8.58	87.94
Track4	13.15	0.00	2.86		5.72	21.73
Track5	44.61	0.00	8.58	5.72		58.91
Weighting Sum	91.77	110.50	87.94	21.73	58.91	

b

Figure 3

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		a				
		Track1	Track2	Track3	Track4	Track5
b	Track1		0.31	0.00	0.61	0.76
	Track2	0.31		0.87	0.00	0.00
	Track3	0.00	0.87		0.13	0.15
	Track4	0.61	0.00	0.13		0.10
	Track5	0.76	0.00	0.15	0.10	

PCAs

Figure 4

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a

	Artist1	Artist2	Artist3	Artist4	Artist5
Artist1		0.31	0.00	0.61	0.76
Artist2	0.31		0.87	0.00	0.00
Artist3	0.00	0.87		0.13	0.15
Artist4	0.61	0.00	0.13		0.10
Artist5	0.76	0.00	0.15	0.10	

b

Figure 5

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a

	Cust1	Cust2	Cust3	Cust4	Cust5
Cust1		0.31	0.00	0.61	0.76
Cust2	0.31		0.87	0.00	0.00
Cust3	0.00	0.87		0.13	0.15
Cust4	0.61	0.00	0.13		0.10
Cust5	0.76	0.00	0.15	0.10	

b

Figure 6a

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Functionality	Description	Associations Matrix based on?	Input(s) to recommendation process	Results mechanism*
"More like this" Track	In the More like this scenarios, a seed Track, Album or Artist is selected by the customer. The recommendations engine disclosed by this invention then provides a sequence of Tracks, Albums or Artists based on the seed, which can optionally be used as a Playlist by the customer.	Track Associations Matrix	The seed Track	<p>Sequence of 10 distinct recommended Tracks in descending of order of closeness of fit (i.e. PCA correlation value).</p> <p>Filtered out of this returned list are:</p> <ul style="list-style-type: none"> ▪ The seed Track. ▪ Tracks that are not available on the customer's service. ▪ Tracks that the customer already owns or has fully listened to. ▪ Tracks, or Tracks from Albums or Artists, that the customer has rated as Hate it! <p>Returned Tracks should be from a variety of Artists. No more than 2 Tracks should be for the same Artist.</p>
"More like this" Artist	As above.	Artist Associations Matrix	The seed Artist.	<p>Sequence of 10 distinct recommended Artists in descending of order of closeness of fit (i.e. PCA correlation value).</p> <p>Filtered out of this returned list are:</p> <ul style="list-style-type: none"> ▪ The seed Artist ▪ Artists that are not available on the customer's service. ▪ Artists for which the customer has already fully listened to 50% of their catalogue. ▪ Artists that the customer has rated as Hate it!

** in all cases, if no recommendations are available (e.g. all correlations are zero), then simply return the most popular entities (but conforming to the post-filters like not including Hate-it! Material.*

Figure 6b

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Functionality	Description	Associations Matrix based on?	Input(s) to recommendation process	Results mechanism*
"More like this" Album	As above.	Artist** Associations Matrix <i>Note that this solution avoids the creation of an Album Associations Matrix, though in some example embodiments such a matrix may be created using the techniques disclosed above.</i>	The seed Artist of the Release.	Sequence of 10 distinct recommended Albums (Releases), based on a cross-section of the Albums produced by the Artists with the highest closeness of fit (i.e. PCA correlation value). Filtered out of this returned list are: <ul style="list-style-type: none"> The seed Album. Albums that are not available on the customer's service. Albums for which the customer has already fully listened to at least 50% of the Tracks. Albums that the customer has rated as Hate it!, and Albums from Artists that the customer has rated as Hate it! Returned Albums should be from a variety of Artists. No more than 2 Albums should be for the same Artist.
Tracks "You might like"	Tracks, Albums, Artists, and Playlists that "You might like" is a sequence of 10 recommended Tracks, Albums, Artists, and Playlists that are based upon your recent listening habits. The list is available from the Artist/Album/Track/Playlist screens.	Track Associations Matrix	10 distinct Tracks made up of: <ul style="list-style-type: none"> The most recent Tracks rated a Love It! (up to a maximum of 5) The most recent Tracks that have been fully-listened to at least twice, to make up the remaining Tracks. Excluded as inputs are Tracks the customer had flagged as Hate It! Regardless of how many times listened to.	Sequence of 10 distinct recommended Tracks in descending order of closeness of fit (i.e. PCA correlation value). Filtered out of this returned list are: <ul style="list-style-type: none"> The seed Tracks. Tracks that are not available on the customer's service. Tracks that the customer already owns or has fully listened to. Tracks, or Tracks from Albums or Artists, that the customer has rated as Hate it! Additionally the system will seek to return the best correlated two new Tracks that are one-week old new releases in the system, replacing the least highly correlated Tracks in the 10 returned. Returned Tracks should be from a variety of Artists. No more than 2 Tracks should be for the same Artist.

* in all cases, if no recommendations are available (e.g. all correlations are zero), then simply return the most popular entities (but conforming to the post-filters like not including Hate-it! Material).

Figure 6c**8/9**

Functionality	Description	Associations Matrix based on?	Input(s) to recommendation process	Results mechanism*
Artists "You might like"	As above.	Artist Associations Matrix	<p>10 distinct Artists made up of:</p> <ul style="list-style-type: none"> The most recent Artists rated a Love It! (up to a maximum of 5) The most recent Artists for which Tracks have been fully-listened to at least twice, to make up the remaining Artists. <p>Excluded as inputs are Artists the customer had flagged as Hate It! Regardless of how many times listened to.</p>	<p>Sequence of 10 distinct recommended Artists in descending order of closeness of fit (i.e. PCA correlation value).</p> <p>Filtered out of this returned list are:</p> <ul style="list-style-type: none"> The seed Artists. Artists that are not available on the customer's service. Artists for which the customer has already fully listened to 50% of their catalogue. Artists that the customer has rated as Hate it! <p>Additionally the system will seek to return the best correlated two new Artists that are one-week old new releases in the system, replacing the least highly correlated Artists in the 10 returned.</p>
Albums "You might like"	As Above.	Artist Associations Matrix	As above.	<p>Sequence of 10 distinct recommended Albums in descending order of closeness of fit (i.e. PCA correlation value).</p> <p>Filtered out of this returned list are:</p> <ul style="list-style-type: none"> The seed Albums. Albums that are not available on the customer's service. Albums for which the customer has already fully listened to at least 50% of the Tracks. Albums that the customer has rated as Hate it!, and Albums from Artists that the customer has rated as Hate it! <p>Additionally the system will seek to return the best correlated two Artists that are one-week old new releases in the system, replacing the least highly correlated Artists in the 10 returned.</p> <p>Returned Albums should be from a variety of Artists. No more than 2 Albums should be for the same Artist.</p>

* in all cases, if no recommendations are available (e.g. all correlations are zero), then simply return the most popular entities (but conforming to the post-filters like not including Hate-it! Material).

Figure 6d

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Functionality	Description	Associations Matrix based on?	Input(s) to recommendation process	Results mechanism*
"Recommend ed Members"	Recommended members are customers that are similar to the source customer based upon rating and listening habits. They are listed on the Cool Members screen on the Buzz tab.	Customer Associations Matrix	The current customer.	Sequence of 10 distinct recommended Customers in descending order of closeness of fit for the customer's service. Filtered out of this returned list are: <ul style="list-style-type: none"> Customers who are already friends. Customers who have been blocked. <p>Additionally the system will seek to return the best correlated two new Customers that are one-week old new releases in the system, replacing the least highly correlated Customers in the 10 returned.</p>
Playlists "You might like"	Playlists "You might like" are Playlists that have been shared by other customers within the same service.	Customers Associations Matrix	The current customer.	Sequence of 10 distinct recommended Playlists taken from the customers who are closest to the current customer, in descending order of closeness of fit. Filtered out of this returned list are: <ul style="list-style-type: none"> Playlists from customers who are already friends. Playlists from customers who have been blocked. Playlists that the customer has already listened to at least once. Playlists for which the customer has already fully listened to at least 50% of the Tracks. Playlists that the customer has in their library. Playlists that the customer has rated as Hate it! <p>Additionally the system will seek to return the best correlated two new Customers that are one-week old new releases in the system, replacing the least highly</p>
Inbox – editorial and promotional.	Inbox items are directed to the customer based on what they listen to. An extension of this would be to supply news on Artists that we THINK they may be interested in based upon our Artists correlations matrix.	Artist Associations Matrix	As per "Artists "You might like".	As per "Artists "You might like".

** in all cases, if no recommendations are available (e.g. all correlations are zero), then simply return the most popular entities (but conforming to the post-filters like not including Hate-it! Material.*