Enhancing cricket viewing experience on a mobile phone

Design Degree Project (Stage II)

Guide: Prof. Ravi Poovaiah

Shaswath V
Sr. Interaction Design
IDC, IIT Bombay

About the Project

The aim of this project is to design a cricket application on a mobile phone that enhances cricket viewing experience of a person.

The application is aimed at people:
- Who watch cricket
- Who have access to mediums to watch cricket
- Who are at work/ away from home

Need of the Project

Aim of the Project:
The aim of this project is to design a cricket application **on a mobile phone** that **enhances cricket viewing experience** of a person.

Why Enhance?
The widely followed existing medium for watching cricket is TV and whatever is shown is purely base on *editors choice* from stats to Advertisements
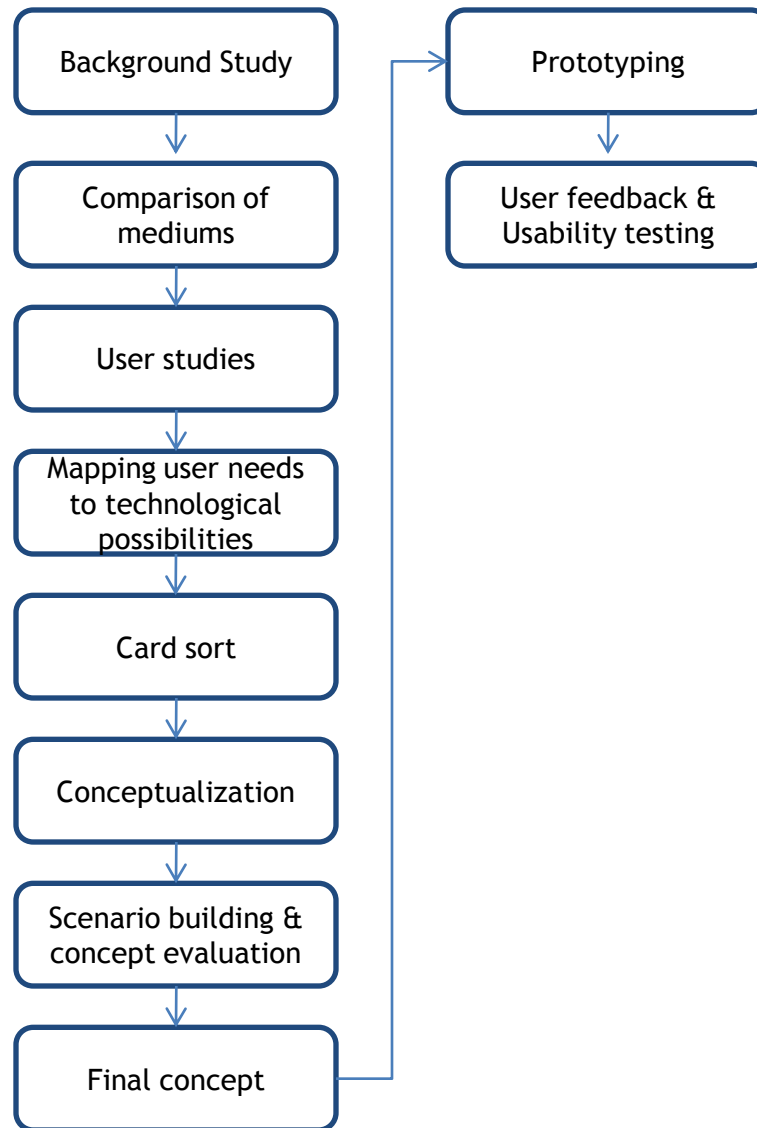
The widely reachable medium like Internet majorly displays *only static information*, ironically being a medium that uses the wide possibilities of computing power

Why Mobile Phone?
Usually cricket matches take place when people go to work and there is a high probability for them that they cant view it at home.
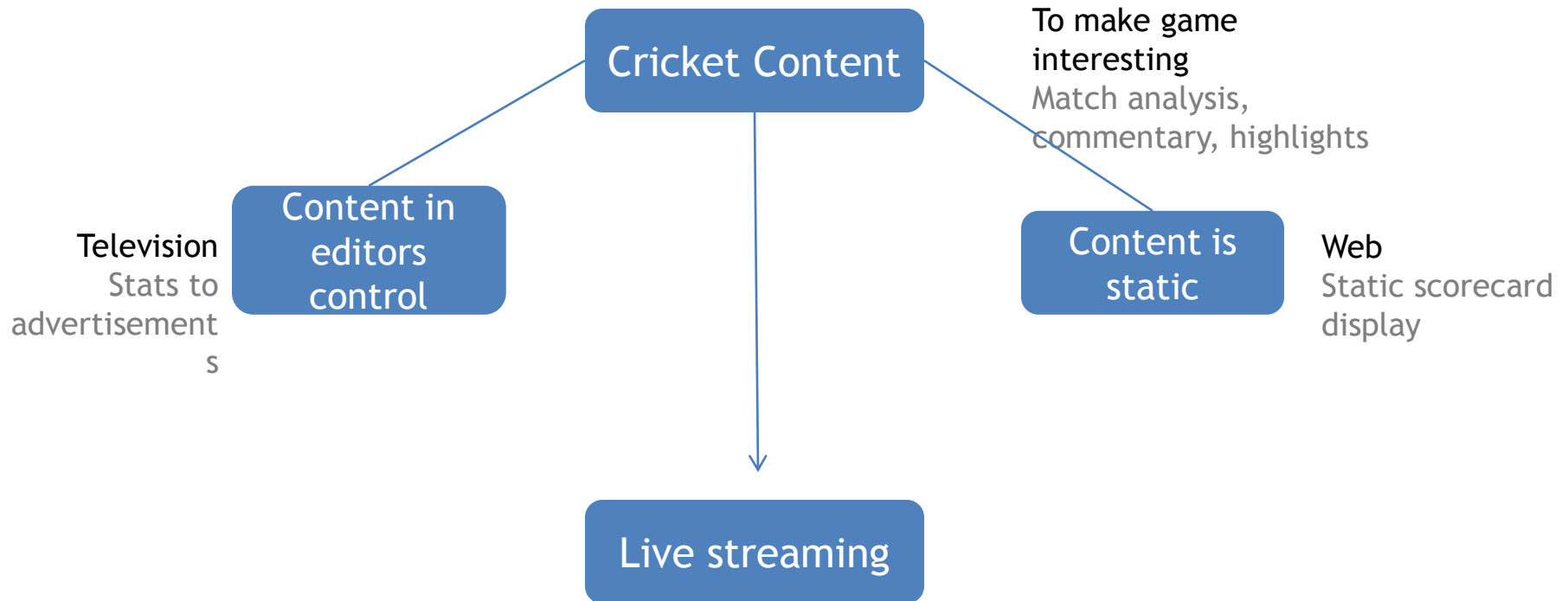
For cricket being a sport, it is much more fun when people are connected/ together while watching the game

Methodology

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┌─────────────────────┐         ┌─────────────────────┐
│  Background Study    │────────▶│    Prototyping       │
└─────────────────────┘         └─────────────────────┘
           │                                │
           ▼                                ▼
┌─────────────────────┐         ┌─────────────────────┐
│  Comparison of       │         │  User feedback &     │
│  mediums             │         │  Usability testing   │
└─────────────────────┘         └─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  User studies        │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Mapping user needs  │
│  to technological    │
│  possibilities       │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Card sort           │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Conceptualization   │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Scenario building & │
│  concept evaluation  │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Final concept       │──────────┐
└─────────────────────┘          │
                                 (to Prototyping)
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Background study

Background study

Cricket Content

Content in editors control

Television
Stats to advertisements

To make game interesting
Match analysis, commentary, highlights

Content is static

Web
Static scorecard display

Live streaming

Television
130 million viewers
in the first 33 matches of IPL3

YouTube
31 million views

Mobile
0.7 million videos
viewed in first 12 days
of IPL

Background study

Scheduling

Asia Cup (Jun 15 - Jun 24, 2010)

Match	Venue	Date	Match Time
1st Match – SL v Pak (D/n)	Rangiri Dambulla International Stadium	Jun 15, 2010	02.30 Pm
2nd Match – Ban v Ind (D/n)	Rangiri Dambulla International Stadium	Jun 16, 2010	02.30 Pm
3rd Match – SL v Ban (D/n)	Rangiri Dambulla International Stadium	Jun 18, 2010	02.30 Pm
4th Match – Ind v Pak (D/n)	Rangiri Dambulla International Stadium	Jun 19, 2010	02.30 Pm
5th Match – Ban v Pak (D/n)	Rangiri Dambulla International Stadium	Jun 21, 2010	02.30 Pm
6th Match – SL v Ind (D/n)	Rangiri Dambulla International Stadium	Jun 22, 2010	02.30 Pm
Final – TBC v TBC (D/n)	Rangiri Dambulla International Stadium	Jun 24, 2010	02.30 Pm

Mobile Phone as a medium

1. Easy access anywhere
2. Overall rich experience
3. Staying in touch
4. Good reach in India

Mobile phone reach in India is set to reach around 737 million by 2012. It is estimated that India already has more number of mobile phones (around 545 million) than toilets (around 366 million) according to the UN.

3G as technology

1. Live Streaming
2. Better Quality
3. Video Conferencing
4. Good Growth in India

3G enabled mobile phones reach in India is set to reach around 30 million by 2012. Considering that research on 4G is already underway, mobile phones of the future will be providing a rich multimedia experience.

Background study

Interestingness in the content

Importance/ Significance
Sachin Tendulkar hits his 45th test century.

Unexpectedness
A bowler coming in and scoring a 50 in quick time.

Neighbourhood
How well can India fare in a seaming track?

Thresholds
1) Individual
    Scoring a 100 is as significant as scoring 149
2) Context Dependant
    No one has scored more than 80 against NZ in NZ
3) Poor Performance
    Sehwag holds record of maximum ducks against OZ

Anticipation
Can Sehwag score a hundred at least this time with him getting out on 90's for past 3 tests?

Relative Significance
How is performance of one player significantly better than another player in a match

Opportunity for significance
Can Mishra take one more wicket to equal record with six wickets of opponents left?

Closeness of a record being broken
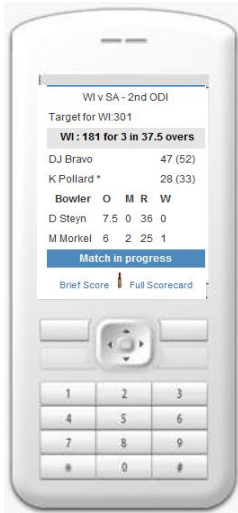Sehwag is not out on 393 and in good form.

Background study

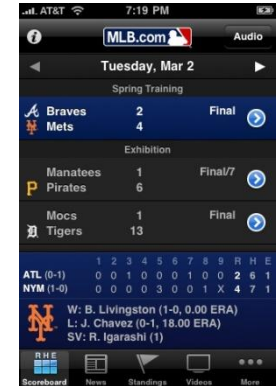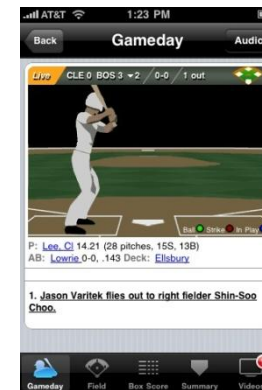Live play, rich graphics, excellent video coverage, expert commentary

Television

Video on Demand, program record, picture in picture, different camera angles

Live streaming, socializing

Mobi TV

IPTV

Radio, sharing media, All time connectivity

Mobile phone

Internet

Live updates, huge data set, socializing, instant messaging, status updates, live streaming, highlights

Radio

GPRS

Press

Suspense, regional languages, live excitement

Instant messaging, status updates, friends connectivity

Huge data set, expert reviews

Background study

(-) Lacked in details
(-) Graphs never were visually appealing
(-) Big Long scorecards
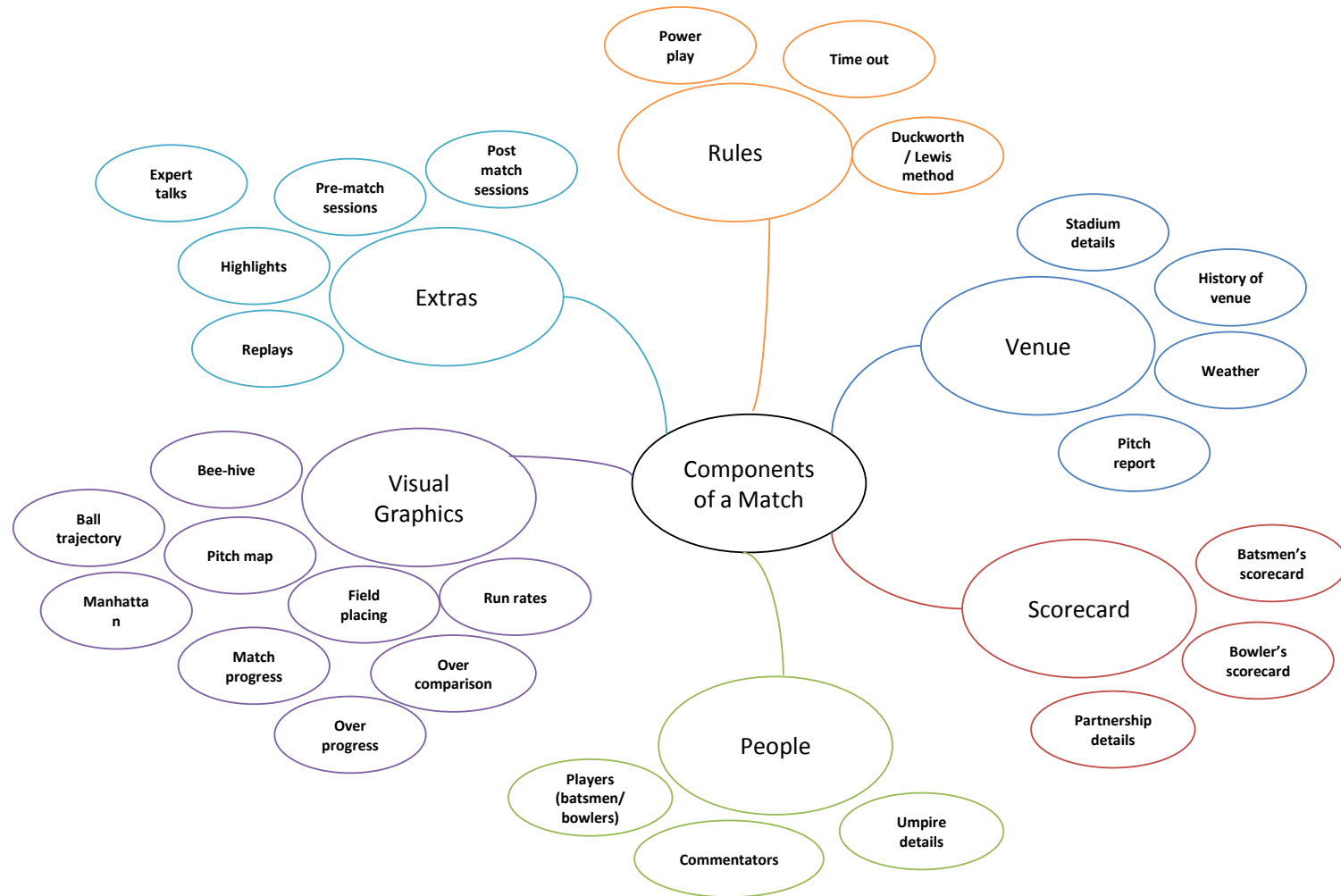
(-) Loads of textual data
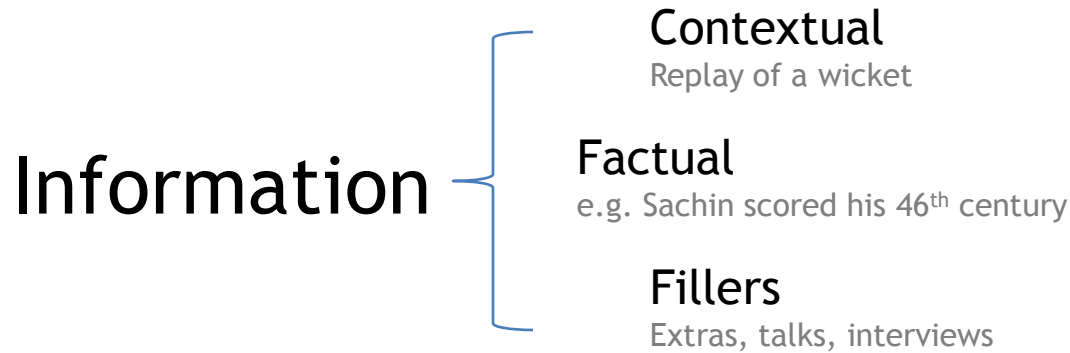(-) Increase in sophistication with features
(-) Many dynamic advertisements

(+) Huge data set of information
(+) Instant updates

(-) Doesn't show how the match progressed
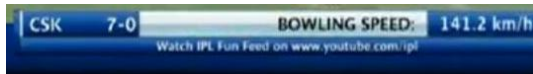(-) Many features are deep inside (navigation Issues)

(+) Simulation of the game available
(+) Latest news streamed with alerts

Research

Components of a Match

Rules
- Power play
- Time out
- Duckworth / Lewis method

Venue
- Stadium details
- History of venue
- Weather
- Pitch report

Scorecard
- Batsmen's scorecard
- Bowler's scorecard
- Partnership details

People
- Players (batsmen/ bowlers)
- Commentators
- Umpire details

Extras
- Expert talks
- Pre-match sessions
- Post match sessions
- Highlights
- Replays

Visual Graphics
- Bee-hive
- Ball trajectory
- Pitch map
- Manhattan
- Field placing
- Run rates
- Match progress
- Over comparison
- Over progress

Information

- **Contextual**
  Replay of a wicket

- **Factual**
  e.g. Sachin scored his 46th century

- **Fillers**
  Extras, talks, interviews

One line Information

Box Information

Full page Information

Classification of Information

One line information

Match Details

Toss Details

Bowl Speed

Stadium Details

Over Summary

Umpire Details

Extras Information

Score with runs and overs

Boundaries Information

Score with Run rate

Commentator's details

Interesting Information

Balls Since Last Boundary

Last 5 over's summary

Projected Score

Score with runs required

Score with Target

Ball Speeds of a bowler

Distance of six hit

Score with required run rate

Box information

Player stats in the tournament

Player Profile (Batsmen/Bowler)

Player stats in the [Test/ODI/T20] format

Player stats in the match

Player information after fall of wicket

Fall Of Wicket (FOW) details

Brief Match Summary

Leading run scorers in the tournament

Surveys

Partnership Details

Team standings

Fair Play Award Standings

Full screen information

Replay of wicket

Replay of 4's & 6's

Replay of chances

Advertisement

Main scorecard - Batting

Main scorecard - Bowling

Over Replay

Team's inning's summary

Wagon Wheel

Commentator Reports [toss, pitch]

Big screen Animated Displays

Manhattan

Trajectory Replay

Wicket's highlights

Boundaries highlights

Player's highlights

Pitch Map

After Match Player Interviews

Quick Highlights

Awards Presentation

Catches Highlights

Fun Feed

Special Moments

Pattern of Information

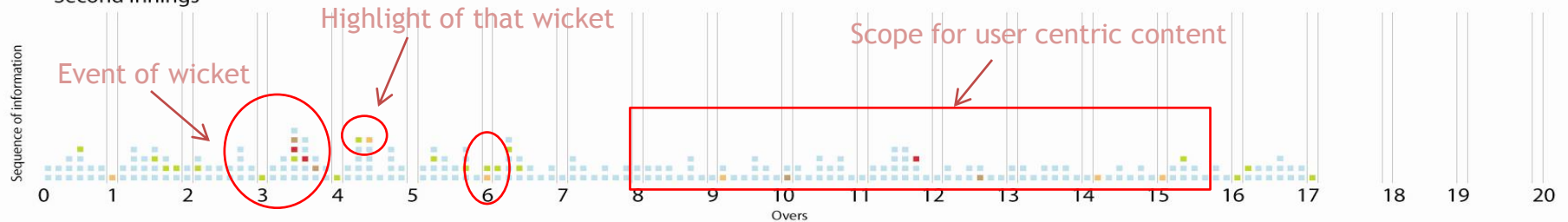Rajasthan Royals Vs Chennai Super Kings

First Innings

density of information

Second Innings

Highlight of that wicket

Event of wicket

Scope for user centric content
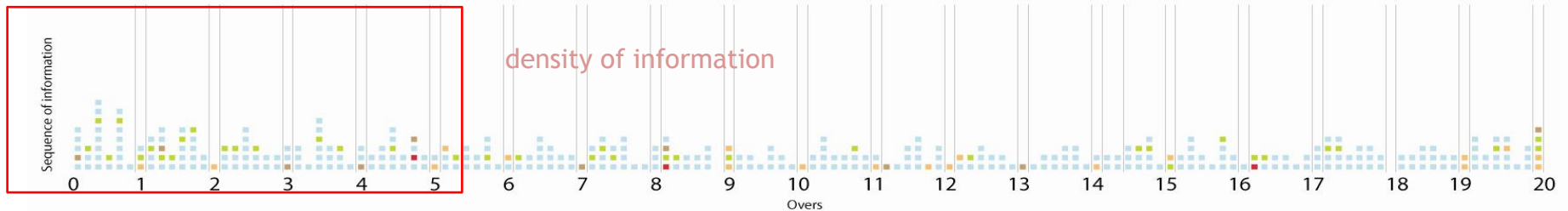
Main batting scorecard

Legend:
- Full - screen Information
- Replays / Highlights
- Event of a wicket
- Half - screen Information
- One Line Information
- Interval between overs

RAJASTHAN ROYALS
DLF IPL 2010 - MATCH 24

	MATCHES	AGE
Michael LUMB	5	30
Naman OJHA	15	26
Faiz FAZAL	4	24
Yusuf PATHAN	36	25
Abhishek JHUNJHUNWALA	7	27
Adam VOGES	4	30
Paras DOGRA	7	25
Shane WARNE (c)	35	40
Sumit NARWAL	3	27
Siddharth TRIVEDI	27	27
Shaun TAIT	6	27

Murali VIJAY 50*

BALLS	FOURS	SIXES	S/RATE	MINUTES
29	3	3	172.4	33

CSK 28-0 LAST SIX DISTANCE HIT : 86m
Watch IPL Fun Feed on www.youtube.com/ipl

Research

The user's choice of information
Likes and dislikes
Frequency of information
Relevant/irrelevant

Different mediums used in different scenarios
At home
In office
On the move

Choice of medium

Socializing aspect of the game
Watch alone/ in a group
Share stories?

No. Of Users: 9 [Elderly: 3, Office going: 3, Students: 3]

Among the users: Male: 6, Female: 3

Among the users: Cricket geek: 3

Watches cricket regularly: 4

Watches cricket occasionally: 2

Research

Cricket Graphics
Context specific graphics

Excitement Builder
Audio commentary builds excitement

User Control
•Advertisements are an unwanted distraction
although some feel it as a necessary break
•Users want to see the context specific information
when they desire to see it

Socializing
Like to listen to stories, view points, facts etc.

Personalization
Specific interest on the different kinds of
information being shown

Want Regular Updates
Ready to send SMS, ready to stand in a
crowded showroom

Adapt to new mediums
Download new cricket applications

Creating an avatar, having a star icon

On the move
Users do not want to miss matches being stuck up in
traffic or when having a long day at the office.

Record and replay
Users do not want to miss out on any action of the
match while doing multi tasking.

Match history at a glance
Understand the summary of the match at one go

Share experiences
Like to share stadium experiences, meeting cricket
stars etc. along with his family and friends

Design Brief

Design Brief

The aim of the project is to develop a mobile interface that enhances the current cricket viewing experience for the viewers viewing on a mobile phone.

Essential Parameters:
1. The mobile interface must be easy to use for a user on the move.
2. It must be intuitive enough for the user to understand the match summary in a jiffy.

Desirable Parameters:
1. It must be able to provide user the control to view what information he wants to see intuitively and easily.
2. Options provided in the interface must be personalized to the user's needs and requirements.
3. The application must bring about the feeling of togetherness with friends/family while watching a cricket match.

Incentives:
1. The features applicable to the mobile interface can also be synched with the user's computer for him to provide additional options for viewing the game.

Initial Concepts

Initial concepts

Match Meter
To indicate which team has the upper hand

Different interactive visuals
To indicate strengths of the team like 4 out of 5 bats

Match Summary

Profile Page
Current page

Quickies
Based on user's preference
Based on habits

Quickie

Initial concepts

Radio Mode
Can browse
through options
using his mobile
headset

Different Modes
Rich experience

Radio mode

Instant Tweeting
Update status

Pop ups
Glows when a
friends status is
updated

Instant tweeting

Initial concepts

Over summary →

Timeline →
Seek by overs

↓ Commentary On/Off

Time Line | Video mode

Initial concepts

Graphics
Manhattan
Pitch map
Run rate
Hawk eye

Easy to close

Replays & highlights
4's & 6's
Wickets
Best catches

Add to quickie

Scorecards
Batting
Bowling
Partnership
Player history
details

Semi-transparent overlapping of content
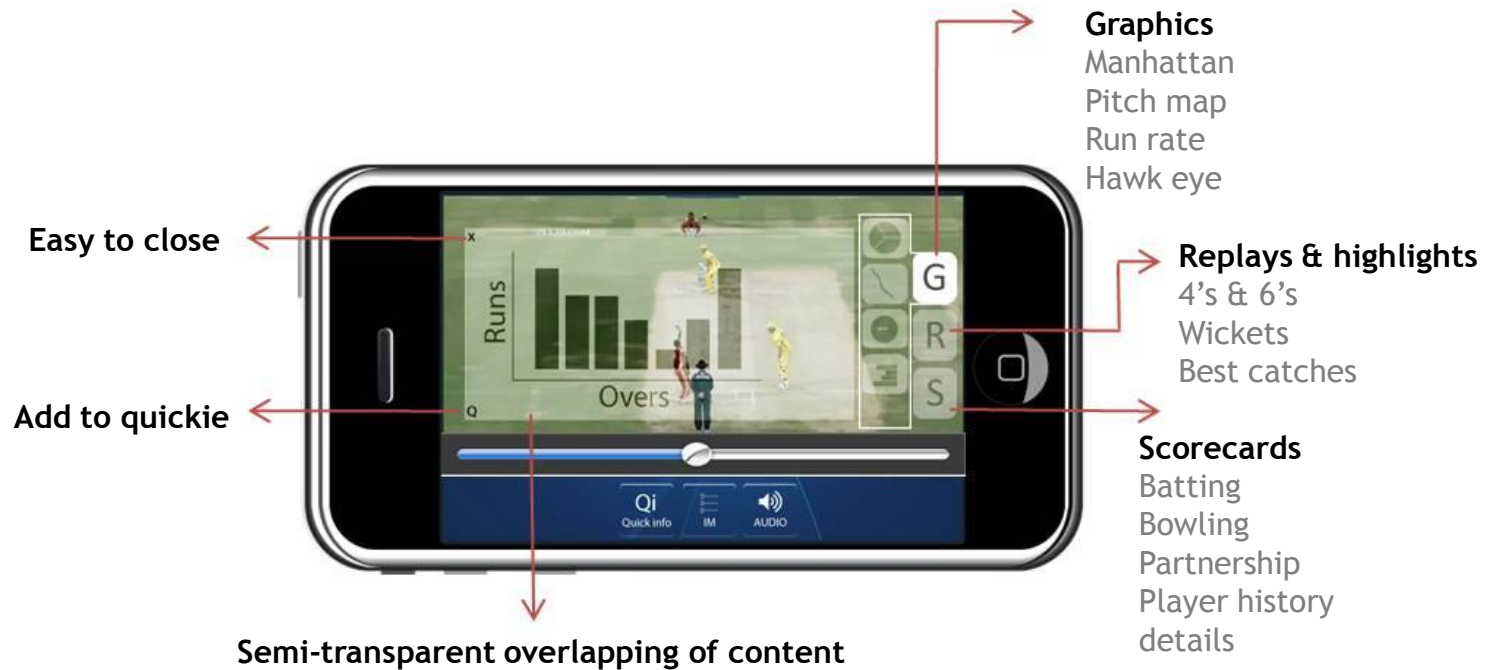
Semi transparent overlay display

Initial concepts

Close and carry on with the game

Sharing of media
Pictures
Videos

Leading to final concept

Leading to final concept

Prioritization
How users prioritize what they want to see given a scenario

Categorization
How users categorize the different contents they usually see during a cricket match

Card sort

8 users

55 different cards

3 kinds of users
Cricket Savvy (Who follow even domestic cricket frequently) - 2
Those who watch international cricket regularly - 4
Those who do not watch cricket so regularly - 2

Leading to final concept

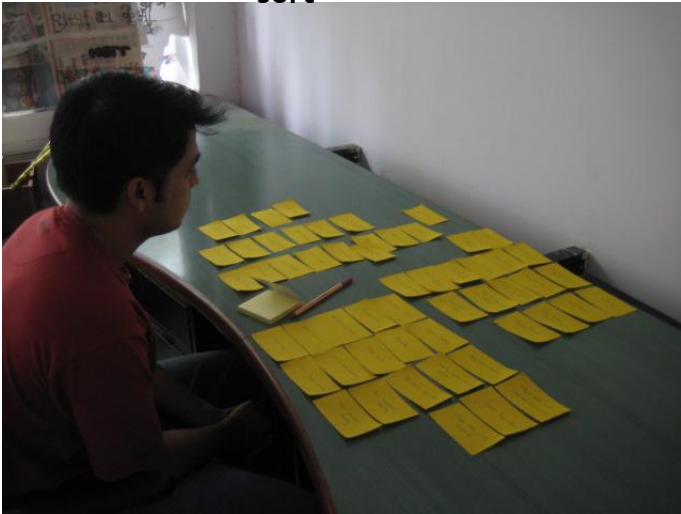| Sno.	Key words	Sno.	Keywords
1	Match Details	28	Interesting Information
2	Player Profile (Batsmen/Bowler)	29	Balls Since Last Boundary
3	Toss Details	30	Last 5 overs summary
4	Bowl Speed	31	Wagon Wheel
5	Replay of wicket	32	Commentator Reports [toss, pitch, sideline]
6	Replay of 4's & 6's	33	Surveys
7	Replay of chances	34	Bigscreen Animated Displays
8	Stadium Details	35	Manhattan
9	Over Summary	36	Trajectory Replay
10	Player stats in the tournament	37	Partnership Details
11	Umpire Details	38	Projected Score
12	Extras Information	39	Wicket's highlights
13	Score with runs and overs	40	Boundaries highlights
14	Advertisement	41	Player's highlights
15	Player stats in the [Test/odi/T20] format	42	Pitch Map
16	Main scorecard - Batting	43	After Match Player Interviews
17	Main scorecard - Bowling	44	Score with runs required
18	Player stats in the match	45	Quick Highlights
19	Player information after fall of wicket	46	Score with Target
20	Boundaries Information	47	Ball Speeds of a bowler
21	Fall Of Wicket (FOW) details	48	Distance of six hit
22	Brief Match Summary	49	Score with required run rate
23	Scorecard with Run rate	50	Fair Play Award Standings [team standings]
24	Comentator's details	51	Awards Presentation
25	Over Replay	52	Catches Highlights
26	Team's inning's summary	53	Fun Feed
27	Leading Run scorers/ Wicket Takers in the tournament	54	Team standings in a tournament
		55	Special Moments

Leading to final concept

								Very Significant		
U1	**U2**	**U3**	**U4**	**U5**	**U6**	**U7**	**U8**	
1,5	1, 6	2, 5, 6, 9	1, 5	1, 8	1, 3, 8, 9		6	1, 6
13, 16	13, 16, 17	19	16, 18	10, 13	13, 16, 18	16, 17, 19	13	13, 16,
23, 26, 28	23, 26	22, 23, 26, 28	20, 22, 26	22, 24, 26	21, 22, 23, 28	23	20, 21, 22, 23	22, 23, 26
31	30, 34, 38, 39	36, 37, 39			30, 31, 32, 35, 37, 38		30	
45, 49	44, 46, 49	40, 41, 45, 49	40, 44, 45, 46, 47, 49		42, 44, 46, 48, 49	44, 45, 46	44, 46	44, 45, 46, 49
		50, 51, 52, 55	52					

1	Match Details		44	Score with runs required
6	Replay of 4's & 6's		45	Quick Highlights
13	Score with runs and overs		46	Score with Target
16	Main scorecard - Batting		49	Score with required run rate
22	Brief Match Summary			
23	Scorecard with Run rate			
26	Team's inning's summary			

Order of preference
1. Match Details
2. Scorecards
3. Match summary
4. Highlights

Significant

U1	U2	U3	U4	U5	U6	U7	U8	
2,5,7	2, 3, 5, 7, 9	1, 7	2, 4, 7, 8, 9	2, 3, 4, 5, 6, 9	2, 5	2, 6, 7, 9	1, 5	2, 5, 7, 9
10,15,18,19	10, 18	10, 18	10, 12, 13, 15, 17, 19	11, 12, 14, 15, 16, 17, 18, 19	10, 15, 17, 19	13, 18	17	10, 17, 18, 19
21,24,27,29	21, 22, 25, 29	21, 27	21, 23, 24, 25, 28, 29	20, 21, 23, 25	20, 25, 29	29		21, 25, 29
30,35,36,39	31, 32, 35, 37	30, 31, 35	30, 32, 35, 36, 37, 38, 39	30, 31, 34, 35, 36, 37, 39	33	30, 35, 36, 37	38, 39	30, 31, 35, 36, 37, 38, 39
40, 48, 41	40, 45, 48	42, 43, 44, 46	41, 43, 48	40, 42, 43, 45, 46, 47, 48	40	40, 41, 49	40, 45, 48, 49	40, 48
51,52,54	52, 55		51, 55	51, 52, 53	50, 52	50, 52, 55	51, 55	51, 52, 55

2	Player Profile (Batsmen/Bowler)	25	Over Replay	40	Boundaries highlights
5	Replay of wicket	29	Balls Since Last Boundary	48	Distance of six hit
7	Replay of chances	30	Last 5 overs summary	51	Awards Presentation
9	Over Summary	31	Wagon Wheel	52	Catches Highlights
10	Player stats in the tournament	35	Manhattan	55	Special Moments
17	Main scorecard - Bowling	36	Trajectory Replay		
18	Player stats in the match	37	Partnership Details		
19	Player information after fall of wicket	38	Projected Score		
21	Fall Of Wicket (FOW) details	39	Wicket's highlights		

1. Replays
2. Player statistics and details
3. Cricket graphics
4. Match statistics (Fall of wicket, last 5 over's summary etc.)

Insignificant

U1	U2	U3	U4	U5	U6	U7	U8	
3,4,8,9	4, 8	3, 4, 8	3	7	4, 6, 7	1, 3, 4, 5, 8	2, 3, 4, 7, 8, 9	3, 4, 8
11,12,14,17	11, 12, 14, 15, 19	11, 12, 13, 14, 15, 16, 17	11, 14		11, 12, 14	10, 11, 12, 14, 15	10, 11, 12, 14, 15, 16, 18, 19	11, 12, 14, 15
22,25	20, 24, 27, 28	20, 24, 25, 29	27	27, 28, 29	24, 26, 27	20, 21, 22, 24, 25, 26, 27, 28	24, 25, 26, 27, 28, 29	20, 24, 27, 28
32,34,37	33, 36	32, 33, 34, 38	31, 33, 34	32, 33, 38	34, 39	31, 32, 33, 34, 38, 39	31, 32, 33, 34, 35, 36, 37	32, 33, 34
42,43,44,46,47	41, 42, 43, 47	47, 48	42	41, 44, 49	41, 43, 45, 47	42, 43, 48	41, 42, 43, 47	41, 42, 43, 47
50,53,55	50, 51, 53, 54	53, 54	50, 53, 54	54, 55	51, 53, 54, 55	51, 53, 54	50, 52, 53, 54	50, 53, 54,

3	Toss Details	28	Interesting Information
4	Bowl Speed	32	Commentator Reports [toss, pitch, sideline]
8	Stadium Details	33	Surveys
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24	Comentator's details	50	Fair Play Award Standings [team standings]
27	scorers in the tournament	53	Fun Feed
		54	Team standings in a tournament

1. Pre-match details
2. Post-match details
3. Fun feed
4. Extra information (commentator's details etc.)

Leading to final concept

one line Score	Score	Score/ Timeline	Dynamic Match info	Current State	Batting stats	Current details	
				1, 2, 4, 9		1	
13	12, 13, 16, 17		13, 16, 17	13, 19	16	13	13, 16
23	20, 29	23	20, 21, 23, 29	23, 27, 28, 29	23		20, 23,29
	35, 38	35	35, 37, 38	32, 34			35
44, 46, 49	44, 46, 49	44, 46, 49	44, 46, 49	44, 46, 49	44, 48, 49	46	44, 46, 49
52				54			

13	Score with runs and overs	35	Manhattan
16	Main scorecard - Batting	44	Score with runs required
23	Scorecard with Run rate	46	Score with Target
29	Balls Since Last Boundary	49	Score with required run rate
20	Boundaries Information		

Current Score

Highlights	Highlights	Highlights	Highlights	Replays & Highlights	Replays & Highlights	Replays	Boundaries	
5, 6, 7	5, 7	7	5, 6, 7	5, 6, 7	5, 7	5, 6	6	5,6,7
25	25		21, 27		21, 25	25	20, 29	25
30, 39	31	39	36, 39	39	36, 39	36		36, 39
40, 45	40, 41, 45	40, 45	40, 45	40, 41, 45	41, 45, 48		40	40, 41, 45
52	52	52	52	52				52

5	Replay of wicket	39	Wicket's highlights
6	Replay of 4's & 6's	40	Boundaries highlights
7	Replay of chances	41	Player's highlights
25	Over Replay	45	Quick Highlights
36	Trajectory Replay	52	Catches Highlights

Replays and Highlights

Player info in match	Bowling stats	Bowling stats	Player Profile	Player Summary	Player Summary	Individual Summary	Detailed info	Detailed Info.	
	4, 9	4, 9	2	2	2	2, 4, 9	2, 4		2, 4, 9
18, 19		17	10, 15	10, 15, 17, 18, 19	18, 19	10, 15, 18, 19	10, 15, 18, 19	10, 12, 15, 16, 17, 18	10, 15, 17, 18, 19
		21, 25, 29						20, 21, 22, 26	21
31		36				31, 36		30, 31, 35, 36, 37, 38	31, 36
	42, 47	47	41			41, 42, 47, 48	43, 47	42, 47 ,48	42, 47, 48
							54		

2	Player Profile (Batsmen/Bowler)	18	Player stats in the match
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Player profile

Leading to final concept

Feeds	Feeds	Feeds	Special Moments	Other info	Extra Info	Extra Info	Frills	Unrequired	Extras	Talks	Talks	After Match	After Match	Post Match details	
				3, 8	4, 8			3, 8							8
	14	14		11, 14	11, 12, 14	12	12, 14	11	12		11				11, 12, 14
28		28	28	24	24	28	28	24			24	27		22, 26, 27	24, 27, 28
34		34		33	32, 33, 34	34	33, 34	32, 33	31, 35		33				33, 34
					47, 48	42	43	42		43	43		43	43	43
53, 55	53	51, 53, 55	53, 55	50		51, 54	50, 51, 53, 54, 55	50		51, 53	54	50, 51	50, 51, 54	50, 55	50, 51, 53, 54, 55

8	Stadium Details	24	Comentator's details	50	Fair Play Award Standings [team standings]
11	Umpire Details	28	Interesting Information	51	Awards Presentation
12	Extras Information	33	Surveys	53	Fun Feed
14	Advertisement	34	Bigscreen Animated Displays	54	Team standings in a tournament
55	Special Moments	43	After Match Player Interviews	27	Leading Run scorers/ Wicket Takers in the tournament

Feeds and extras

Pre-match details	Pre-match details	Pre-match info	
1, 3, 8	3, 8	3, 8	3, 8
	11	11	11
	24	24	
32	32	32	32

3	Toss Details
8	Stadium Details
11	Umpire Details
32	Commentator Reports [toss, pitch, sideline]

Pre-match details

Match Prediction	Summary	Match Stats	Match Summary	Match Summary	Static Match info	
	1, 9			1, 3, 9	1	1
	16, 17	10, 15		13, 16		
	22, 26	20	21, 22, 26	20, 22, 25, 26, 29	22, 26, 27	22, 26
31, 37	30	30, 31, 33, 35, 37, 38	30, 37	30, 38		30, 37, 38
41, 42			48			

1	Match Details
22	Brief Match Summary
26	Team's inning's summary
30	Last 5 overs summary
37	Partnership Details
38	Projected Score

Match Summary

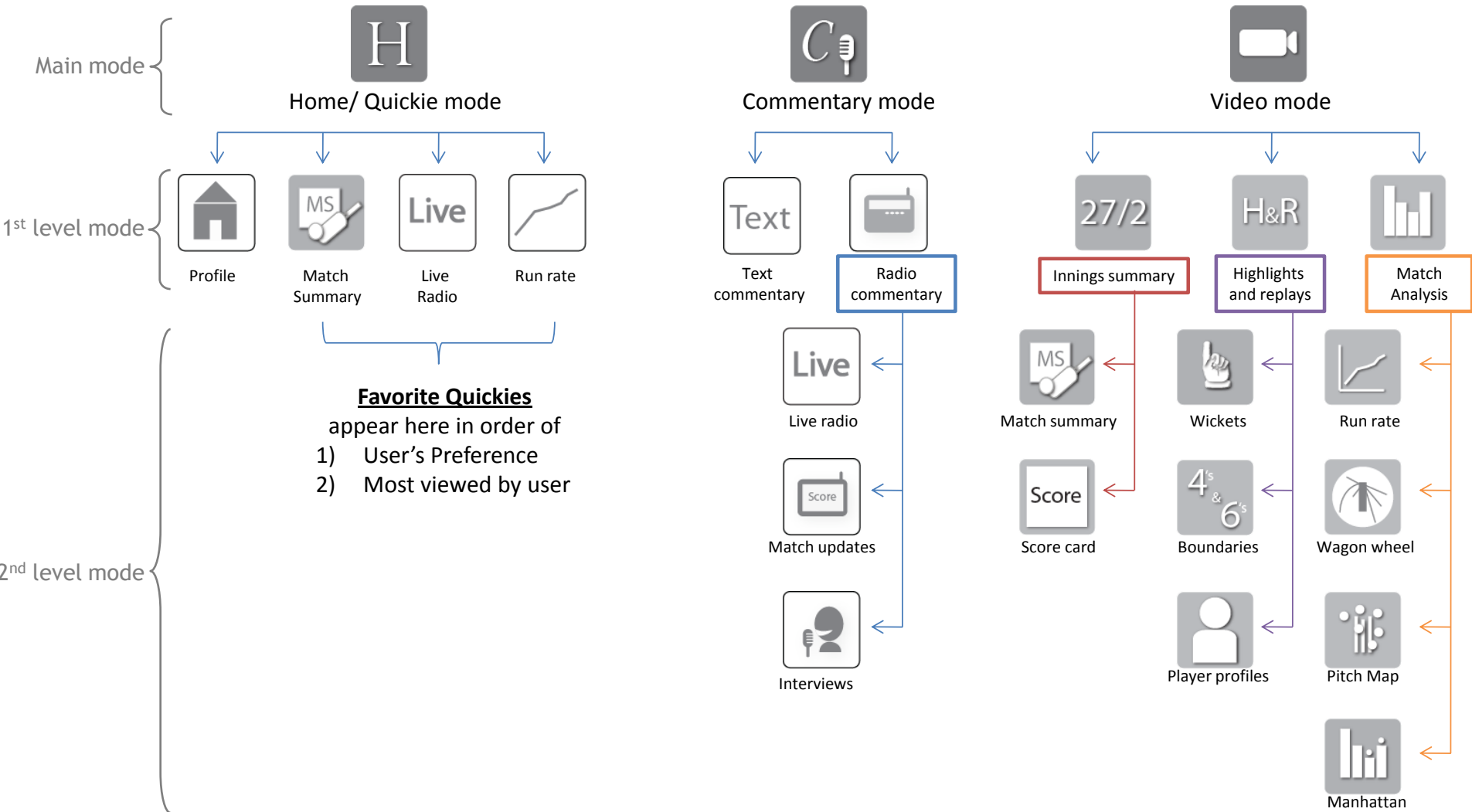# Final Concept

Final concept

The key points included while designing the final concept are:

• Evaluation of the features discussed in the initial concepts

• Information categorization done through card sort

• Navigation and structuring of the information to be displayed

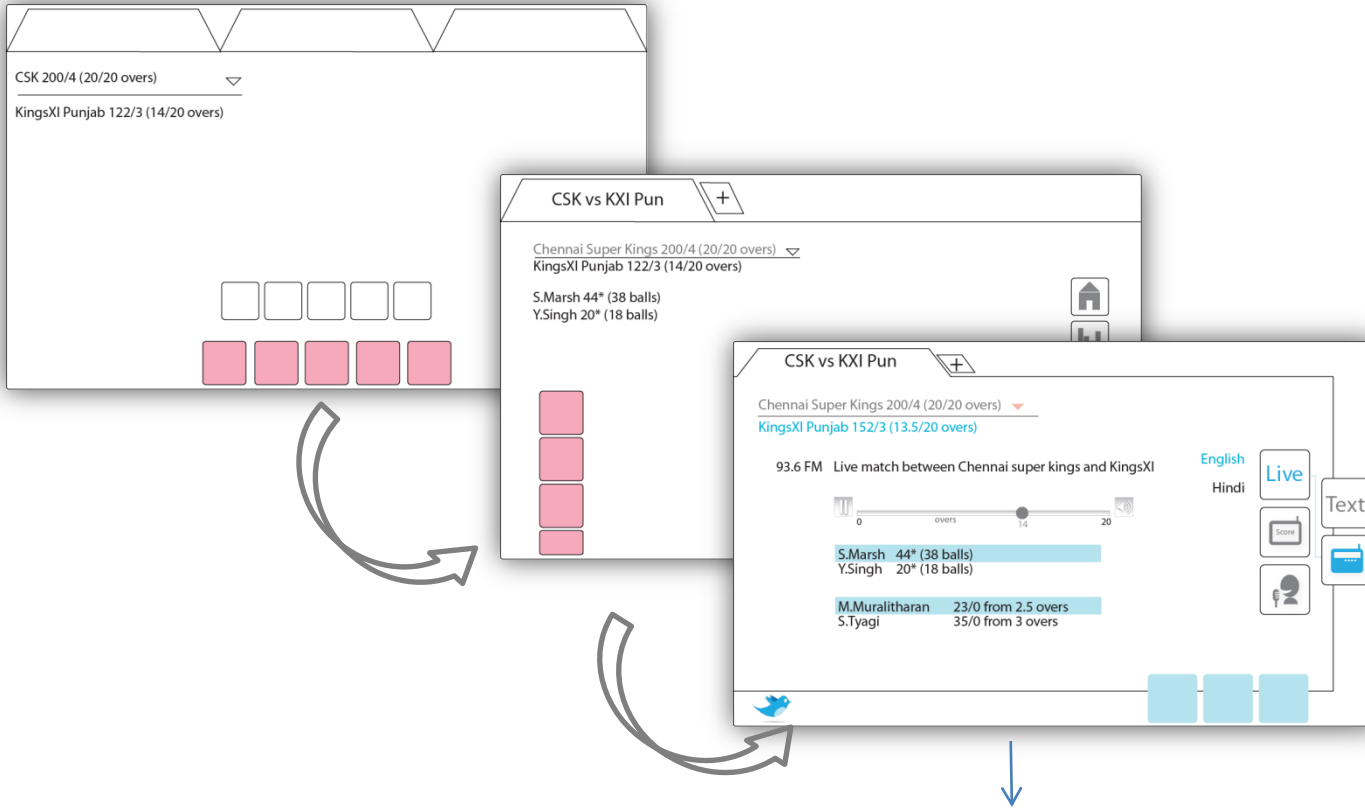• Aesthetics of the screen displaying the information

Final concept

Main mode

Home/ Quickie mode

Commentary mode

Video mode

1st level mode

Profile	Match Summary	Live Radio	Run rate

Text commentary	Radio commentary

Innings summary	Highlights and replays	Match Analysis

Favorite Quickies
appear here in order of
1) User's Preference
2) Most viewed by user

2nd level mode

Live radio	Match summary	Wickets	Run rate
Match updates	Score card	Boundaries	Wagon wheel
Interviews	Player profiles	Pitch Map
			Manhattan

Keys : More than 2.3cms x 2.3cms
For easy use by fingers

Font: Myriad Pro
Type Size: 12pts.
For easy readability

Think aloud test | 3 users

Navigation
" After the first attempt can easily navigate through the options"

No icon to come out of the application!!

Interface design
"I Want to pick the color of the interface"

Nomenclature
Certain icons needed help to be understood,
Example: Match Summary, Radio match update

"Icons can change according to the tournament"
For example, icons and content can be related to IPL

Future Scope

1. An actual model can be made and tested out for live streaming capabilities

2. There can be an online version of the same application which allows users to make their profile in office and also interact through their mobile phones.

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Thank You