# Software Development Plan

# FACETS: Brainstorming Tool

# [Draft 1]

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## Version History

Draft 1: Initial Version – Overview and Measurements yet to be completed

## Overview

#### Problem Statement – FACETs Brainstorming Tool for Android

[TODO]

## Project Scope

The following items are considered in scope for this project and will be done by us.

#### In Scope

* All features listed in the Product Feature section.
* Iteration testing, Integration testing, and Usability testing of the Android application.
* Packaging the application after development for easy installation by users.
* Working with the project sponsor to elicit requirements and verify them using prototypes and iterative development with functional application iteration demos.
* Database redesign to implement new features desired in the Android application, and any changes required to the web-based Brainstorming tool to ensure existing functionality is retained.

The following items are considered out of scope and will not be developed by us during this project.

#### Out of Scope

* Making changes to the existing web-based Brainstorming tool besides those that are required to make the Android-based tool function.
* Other FACETs tools are not in scope of this project. However, integration with other FACETs tools will be kept in mind during design phases.
* Maintaining the application beyond November 2010, regardless of changes in the Android OS.

The following items are assumptions the team has made to simplify project planning.

#### Assumptions

* [Put any project assumptions here.]

## High-Level Functionality

The feature list in the system is determined from the existing web-based Brainstorming tool, project sponsor interaction, and limited usability testing. To avoid feature creep, the team will ensure that any added features are within the defined project scope. Initial project schedule estimates will be made primarily on this list.

* + The application will allow for participant and moderator features based on the login credentials given in the login screen.
	+ Users of the system will be able to:
		- Create a Brainstorming Session
		- Edit the options of a Brainstorming Session
		- Shift a current Brainstorming Session from one phase to an adjacent phase (either forwards or backwards) without error or unconfirmed data changes
		- Participate in the Idea Generation phase of a Brainstorming Session
		- Participate in the Voting phase of a Brainstorming Session
		- Perform the Idea Grouping activity
		- View the results of a completed Brainstorming Session
	+ Editing a session, session phase shifting, and Idea Grouping will be restricted to moderators of a Brainstorming Session
	+ Login authentication will be performed using RIT DCE accounts.
	+ Android-specific usability standards and designs will be implemented as often as feasible.

## Release Milestone Deliverables

### Iteration 1 – System Prototype

In order to ensure that all elicited requirements match the customer’s needs and expectations of the final product, a mockup system prototype will be created. This prototype will not contain any functionality, but will consist of screen mockups of the Idea Generation, Idea Grouping, Voting, and Results phases so the customer can see a close representation of the final product as early in development as possible. This will be done to minimize developer time wasted on unnecessary features, as well as minimizing design rework to implement missed requirements.

#### Deliverable Contents

* System Prototype Mockup Screens
* Planned Features and User Stories, each mapped to a mockup screen

### Iteration 2 – Idea Generation Implementation

Iteration 2 will be the first iteration to provide a functional application that can be demoed to the project sponsor and undergo usability testing. The application will not authenticate users nor connect to the FACETs Brainstorming tool database, but function stubs will be made to “fake” that functionality to allow for testing and presentation.

#### Deliverable Contents

* An installable Android application that contains the following features:
	+ Creating a new Brainstorming Session (only in on-phone memory)
	+ Editing a Brainstorming Session
	+ Participating in the Idea Generation phase for a chosen Brainstorming Session

### Iteration 3 – Voting Implementation

Similar to Iteration 2, Iteration 3 will contain a functional application that can be demoed to the project sponsor and undergo usability testing. In addition to the Idea Generation functionality provided in Iteration 2, Iteration 3 will allow users to participate in the Voting phase of a Brainstorming Session. Sorting similar ideas into groups will not be included in this iteration, but the system may automatically create groups to allow for thorough Voting phase testing, and ease integration of future Grouping phase development. Partial database or credential functionality may exist in this iteration release based on the speed of “Session Management” development. The application will continue to use function stubs to “fake” any remaining database and credential functionality yet to be developed.

#### Deliverable Contents

* An installable Android application that contains the following features:
	+ Creating a new Brainstorming Session (only in on-phone memory)
	+ Editing a Brainstorming Session
	+ Participating in the Idea Generation phase for a chosen Brainstorming Session
	+ Participating in the Voting phase for a chosen Brainstorming Session.

### Iteration 4 – Full Implementation

Iteration 4 will contain all features planned for the end release of the product. Idea Generation, Grouping, Voting, and Results Viewing will all be included in this iteration. The user will also be able to login using their RIT DCE account and access, create, and edit Brainstorming Sessions in the EDGE database. This Iteration will undergo thorough integration and usability testing.

#### Deliverable Contents

* An installable Android application that contains the following features:
	+ Creating a new Brainstorming Session
	+ Editing a Brainstorming Session
	+ Participating in the Idea Generation phase for a chosen Brainstorming Session
	+ Performing the Grouping phase activities for a chosen Brainstorming Session (Moderators Only)
	+ Participating in the Voting phase for a chosen Brainstorming Session.
	+ Viewing the Results of a completed Brainstorming Session
	+ Shifting between adjacent phases of a Brainstorming Session (Moderators Only)

### Iteration 5 – Final Release

Iteration 5 will contain a fully featured, tested, and documented Android application package. This will be considered the first “Product Release” of the project intended for end users. No new features will be added between Iteration 4 and Iteration 5, but any defects and usability issues will be corrected.

#### Deliverable Contents

* An installable Android application package with the following characteristics:
	+ Contains all features planned for the release of the product
	+ Is digitally signed with a certificate that expires after the expected lifetime of the product
	+ Includes help documentation with information about application installation and usage
	+ All bugs found in Iteration 4 are fixed or otherwise mitigated
	+ All usability issues found in Iteration 4 are fixed or otherwise mitigated

## Project Organization

As the Brainstorming tool consists of discrete phases, the developers will be divided into three teams of two developers each, starting in Week 4:

* Team 1: Voting and Results Team
* Team 2: Idea Grouping Team
* Team 3: Session Management Team

The following chart shows the dependencies between the different development activities:



Since Session Management is expected to be the most time consuming task, it was broken up between “Session Management Skeleton” and “Session Management Implementation”. This allows the implementation of Session Management to be developed concurrently with the rest of the project.

Using the dependency chart, the teams were divided among the different activities to minimize developer downtime and maximize development concurrency. The following chart shows the team assignments for the different development activities.

  

## Product Schedule

### Week 3

* General Interface Design
* System Prototypes
* *Milestone Goal: Iteration 1*

### Week 4

* Teams 1, 2, 3: Database Connection
* Teams 1, 2, 3: Session Management Skeleton
* Teams 1, 2: Begin Idea Generation

### Week 5

* Teams 1, 2: Idea Generation
* Team 3: Session Management Implementation
* *Milestone Goal: Iteration 2*

### Week 6

* Team 1: Voting
* Team 2: Grouping
* Team 3: Session Management Implementation
* *Milestone Goal: Iteration 3*
* *Ed will be on Vacation*

### Week 7

* Team 1: Results
* Team 2: Grouping
* Team 3: Session Management Implementation
* Thursday week7 meet with Ed? For iteration 3

### Week 8

* Teams 1, 2, 3: Integration
* *Milestone Goal: Iteration 4*
* *Ed will not be here this week (he is leaving July 27th)*

### Week 9

* Usability Testing
* Defect Fixing
* *Milestone Goal: Iteration 5*
* *Ed will be here this week*
* *(Planned )Meeting with Ed again to go over working prototype*

### Week 10

* Project Presentation
* Presentation on Tuesday?

## Measurements

[TODO]

## Technical Process

#### Software Tools

The following software tools will be used with the project:

##### Eclipse IDE

Due to the feature-rich Android SDK Eclipse plugin and since all team members have lots of experience with Eclipse, Eclipse will be the IDE used during development.

##### Android SDK and Android SDK Eclipse Plugin

The Android SDK will be used to compile the Android application, and the Android SDK Eclipse Plugin will be used to ease development using the Eclipse IDE.

##### Microsoft Office 2007 and Microsoft Visio 2007

The Microsoft Office 2007 office suite will be used for creation and modification of all internal and external documents. Microsoft Visio 2007 will also be used for design documentation.

##### Redmine

Redmine will be used for project management, and will contain all project documentation.

##### Subversion and Tortoise SVN

Subversion will be the sole version control tool for all source code. TortoiseSVN will be used for Windows integration.

#### Artifacts

For ease of access for all of the project’s investors, all project artifacts will be saved on the team’s Redmine server.

###### Software Development Plan

This document contains details on the processes used during software development.

###### Software Requirements Specification

This document contains up-to-date requirements given to the project team from the customer.

###### Team Member Activity Trackers

These documents will contain the activities planned to be completed during the current week. Estimated and actual times will be recorded for each activity.

###### Meeting Minutes

These documents will contain all meeting minutes from Tuesday and Thursday meetings. The meeting scribe is chosen by a weekly rotation through all team members.

###### User Installation and Help Documentation

This document explains how to install and use the Brainstorming tool. This document will be included in the final application release package.