# Goals

## Overall Idea

### Graphically edit crochet Patterns by dragging and dropping tiles or brushing them on to a grid

## Functionality

### Save and load project files

### Edit projects as a collection of pieces. Each piece is a pattern

### Print Pattern Instructions

## Deployment

### Installed via click once

### Make patchable

# Requirements

## Operating System

### Windows 7 and Higher

## Graphics

### DirectX 11 or software if DX is not available

## Use cases

### Write a pattern for a wash cloth

### Publish Instructions

## User interface

### Windows MDI Interface

# Tools

## SharpDX

# Implementation

## Pattern Projects

### Xml Definition

### Pattern to HTML Conversion via XSLT

### Editing

#### Project actions

#### Pattern actions

## Saving and Loading Files

### Standard project locations

### File dialogs

### File types

#### Project file

##### Name: Crochet Pattern Project

##### Extension: .cropat

##### The project file is an Xml file

#### Tool set file

##### A binary file that contains all the information needed toad the tool to the project tool set see 4.j.ii

#### Piece file

## Publishing

### Output to HTML

### Rendering HTML and printing

### Adjusting Final Product

### Output to PDF.

#### $$$$

## Rendering graphics

### The grid

### Added and removing tiles

### Selection and highlighting

## Tool sets

### Tool sets contain the different stitches or actions a pattern might contain. They can be loaded into the program then be placed on a pattern

### Tool set items

#### Name [string]

#### Size on the grid [vector2]

#### Abbreviation [string]

#### Image [string]

##### PNG file

##### 64px per grid unit (recommendation for now)

## Utilities

### Tool set Editor

#### Used to create edit save tool sets. See 4.b.iii.3 for the file type

## Solution Structure

### PatternMaker

#### Main windows application project

#### Classes

#### Helper methods

### YarnPlanningAPI

#### Library that contains all the types and methods for creating yarn craft patterns

### TileMapRenderer

#### DirectX tile based image renderer

### ToolSetEditor

#### Utility app for creating toolsets