

Torn Repair

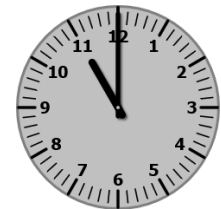
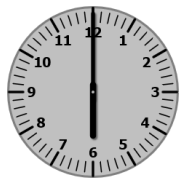
AN EFFICIENT AND INNOVATIVE WAY TO RECOVER FROM MISTAKES

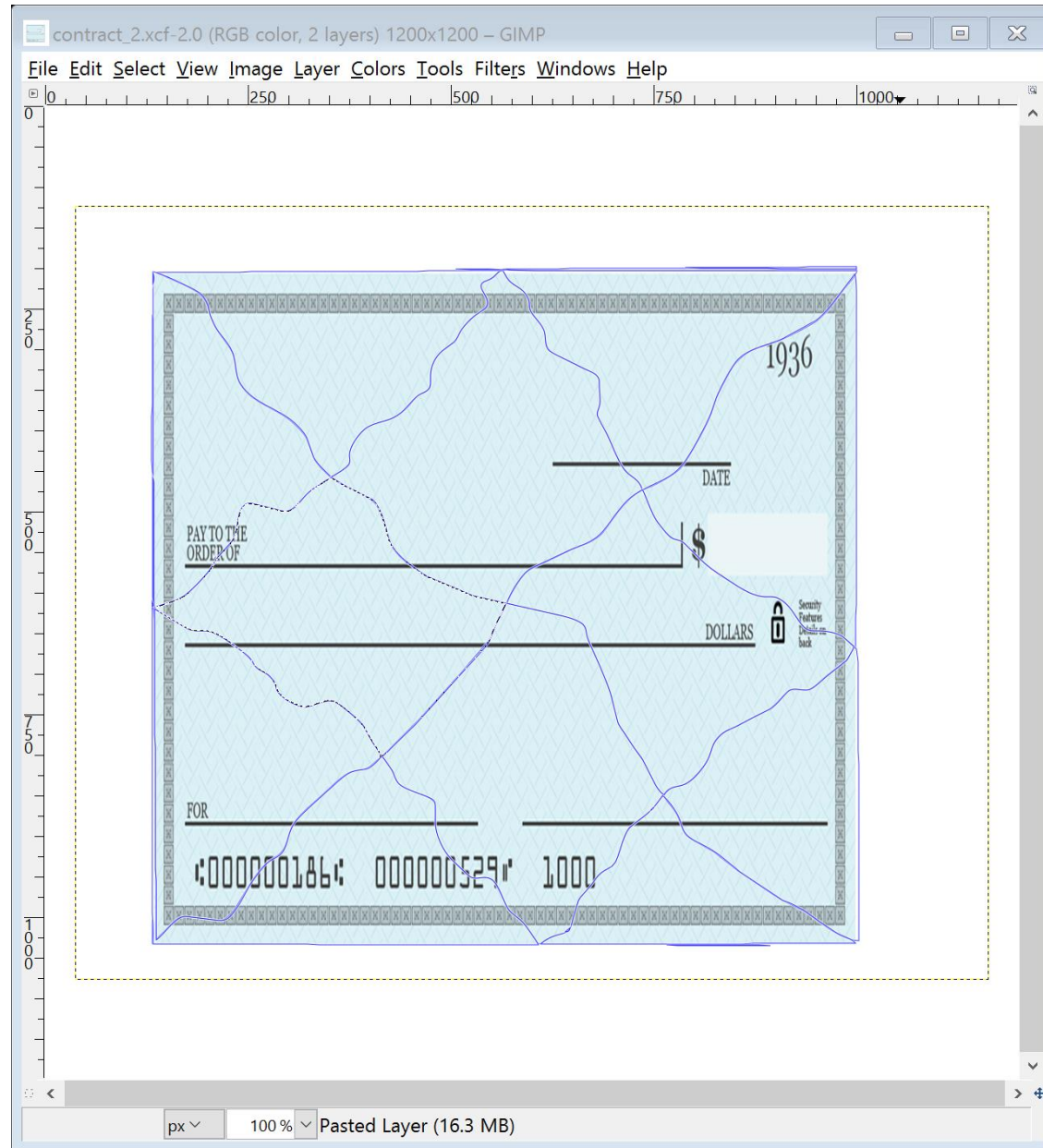
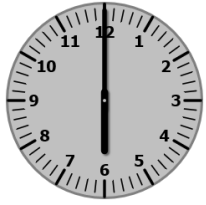
TAN WANG













**FAMILY
TIME is
SACRED
TIME**

-Boyd K. Packer



You will
be fired!!!!

There is a choice (C).....

Torn Repair

Previous Approach: Edge Matching



Uses an optimization criterion to detect matching edges

Amiya Patanaik, Bibek Behera and Sukadeb Acharya - IIT Kharagpur - India.



Their Result

```
function IKA:ReloadAuraNames()  
  
    aura_eyeanzu = GetSpellInfo (1  
  
    aura_phantasmal_wounds = GetS  
    aura_phantasmal_winds = Get  
    aura_fel_chakram = GetSpell  
    aura_phantasmal_corruption =  
    aura_fel_bomb = GetSpellInfo (  
    aura_phantasmal_bomb = GetSpell  
  
    dispel_nature_scare = GetS  
    dispel_purify = GetSpellIn  
    dispel_cleanse = GetSpellInfo  
    dispel_purify_spirit = GetSpe  
    dispel_detox = GetSpellInfo (  
    dispel_sear_magic = GetSpellI  
  
    track_auras [aura_phantas  
    track_auras [aura_phantas  
    track_auras [aura_fel_chakram]  
    track_auras [aura_phantasmal_corrup  
    track_auras [aura_fel_bomb] = true  
    track_auras [aura_phantasmal_bomb] = t
```

Improvement by Torn Repair

```
function IKA:ReloadAuraNames()  
  
    aura_eyeanzu = GetSpellInfo (1  
  
    aura_phantasmal_wounds = GetS  
    aura_phantasmal_winds = Get  
    aura_fel_chakram = GetSpellI  
    aura_phantasmal_corruption =  
    aura_fel_bomb = GetSpellInfo (  
    aura_phantasmal_bomb = GetSpell  
  
    dispel_naturescure = GetSp  
    dispel_purify = GetSpellInfo  
    dispel_cleansse = GetSpellInfo  
    dispel_purify_spirit = GetSpe  
    dispel_detox = GetSpellInfo (  
    dispel_sear_magic = GetSpellI  
  
    track_auras [aura_phantas  
    track_auras [aura_phantas  
    track_auras [aura_fel_chakram]  
    track_auras [aura_phantasmal_corrup  
    track_auras [aura_fel_bomb] = true  
    track_auras [aura_phantasmal_bomb] = t
```

A Problem with edge-matching algorithm: solved by use of color in Torn Repair

```
function IKA:ReloadAuraNames()

    aura_eyeanzu = GetSpellInfo

    aura_phantasmal_wounds = G
    aura_phantasmal_winds = Ge
    aura_fel_chakram = GetSpel
    aura_phantasmal_corruption
    aura_fel_bomb = GetSpellIn
    aura_phantasmal_bomb = Get

    dispel_naturescure = GetSp
    dispel_purify = GetSpellIn
    dispel_cleanse = GetSpellI
    dispel_purify_spirit = Get
    dispel_detox = GetSpellInf
    dispel_sear_magic = GetSpe

    track_auras [aura_phantasm
    track_auras [aura_phantasm
    track_auras [aura_fel_chak
    track_auras [aura_phantasm
    track_auras [aura_fel_bomb
    track_auras [aura_phantasm
```

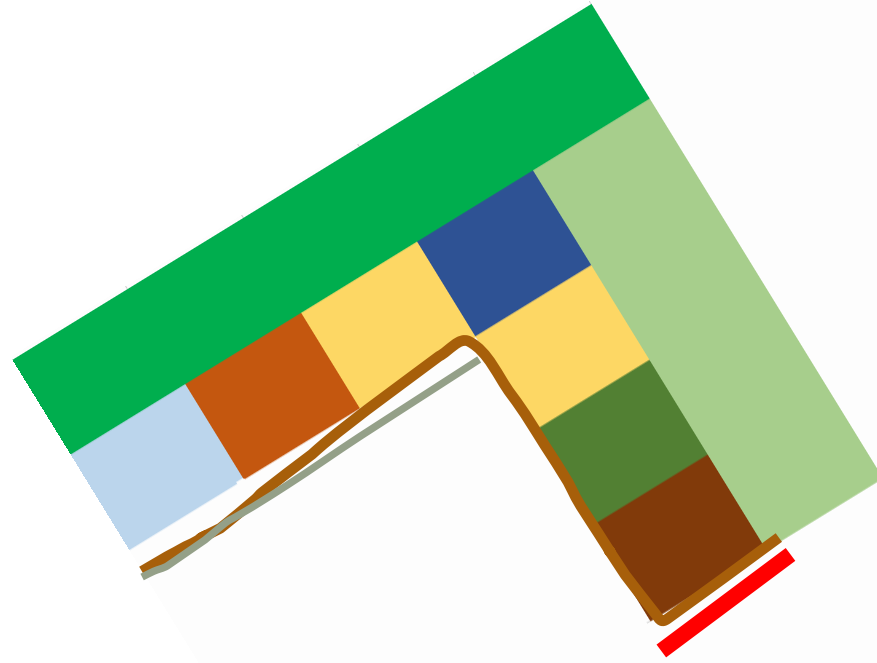
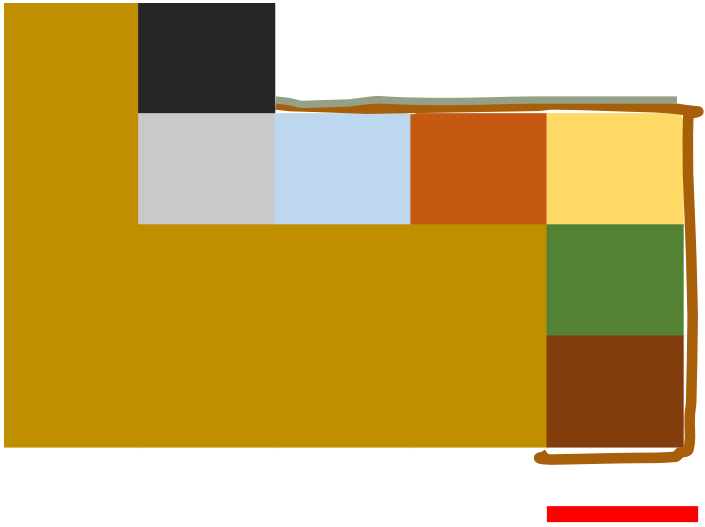
```
o (179202) --Eye of Anzu (checked on liv
etSpellInfo (182325) --Phantasmal Wounds
tSpellInfo (181957) --Phantasmal Winds (
lInfo (182178) --Fel Chakram (checked on
    = GetSpellInfo (181824) --Phantasmal Co
fo (181753) --Fel Bomb (checked on live)
SpellInfo (179219) --Phantasmal Fel Bomb

ellInfo (88423) --druid
fo (527) --priest
nfo (4987) --pally
SpellInfo (77130) --shaman
o (115450) --monk
llInfo (89808) --warlock

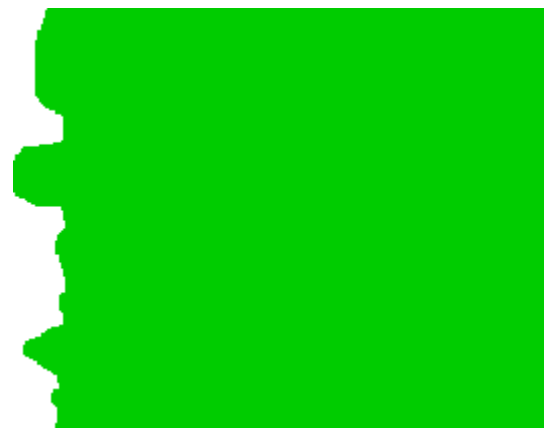
al_wounds] = true
al_winds] = true
ram] = true
al_corruption] = true
] = true
al_bomb] = true
```

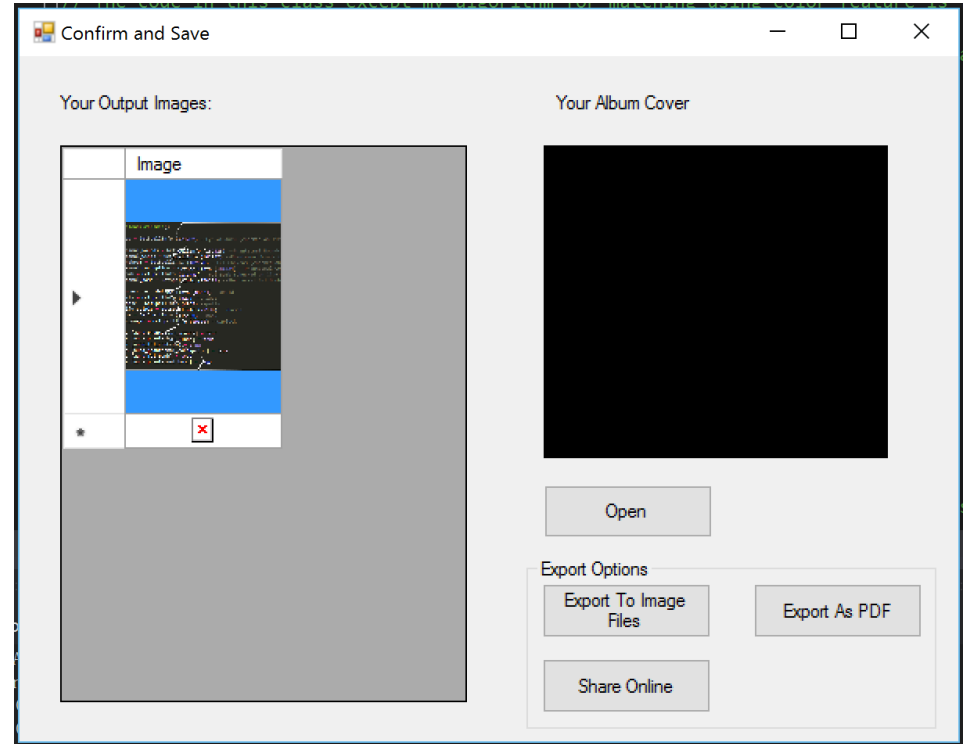
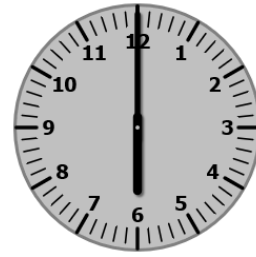
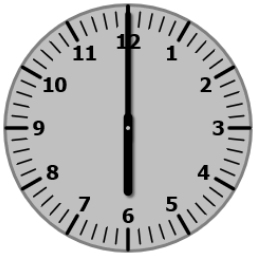
Torn Repair Contributions

- Automatically choose the correct algorithm to use
- Detect problematic edges
 - In color matching: use turning angle on matching edge
 - In edge matching: use color on the matching edge



Problematic edges: Not possible to match all three edges without tearing







The framework of edge matching is from a C++ code written by
Amiya Patanaik, Bibek Behera and Sukadeb Acharya - IIT Kharagpur - India.

<http://aptnk.in/2008/08/automated-mosaicing-of-torn-paper-documents/>

Because the original code fails to detect the matching edge for straight edges, I added the color on the edge
as another metric for detecting matching edge