



100%

Normal



```
# Titre SmartTherm
```

```
self.frame_titre = tk.Frame(self.frame_header, bg='white')
```

```
self.frame_titre.pack(side=tk.LEFT, pady=20)
```

```
self.titre = tk.Label(self.frame_titre, text="SMARTTHERM",
```

```
font=("Helvetica", 36, "bold"),
```

```
fg=self.bleu_fonce, bg="white")
```

```
self.titre.pack(anchor=tk.W)
```

```
self.sous_titre = tk.Label(self.frame_titre, text="Master Your Temperature",
```

```
font=("Helvetica", 14),
```

```
fg=self.orange, bg="white")
```

```
self.sous_titre.pack(anchor=tk.W)
```

```
# Zone principale des donnees
```

```
self.frame_principal = tk.Frame(root, bg='#f5f5f5')
```

```
self.frame_principal.pack(fill=tk.BOTH, expand=True, padx=30)
```

```
# Grille 2x2 pour les cartes
```

```
self.carte_temperature = self.creer_carte(
```

```
self.frame_principal, "TEMPERATURE", 0, 0, self.orange
```

```
)
```

```
self.carte_etat = self.creer_carte(
```

```
self.frame_principal, "ETAT SYSTEME", 0, 1, self.bleu_clair
```

```
)
```

```
self.carte_personnes = self.creer_carte(
```

```
self.frame_principal, "PERSONNES", 1, 0, self.bleu_fonce
```

```
)
```

```
self.carte_energie = self.creer_carte(
```

```
self.frame_principal, "CONSOMMATION", 1, 1, self.orange
```

```
)
```

```
# Boutons de controle
```

```
self.frame_boutons = tk.Frame(root, bg='#f5f5f5')
```

```
self.frame_boutons.pack(pady=20)
```

```
self.btn_panne = tk.Button(self.frame_boutons,
```

```
text="Simuler Panne",
```

```
command=self.toggle_panne,
```

```
font=("Helvetica", 11, "bold"),
```

```
bg="#ef4444", fg="white",
```

```
padx=15, pady=8,
```

```
relief=tk.FLAT,
```

```
cursor="hand2")
```